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AMSTRAD
PCW 8256-8512

8000 PLUS

ISSUE 13 OCTOBER 1987 £1.50

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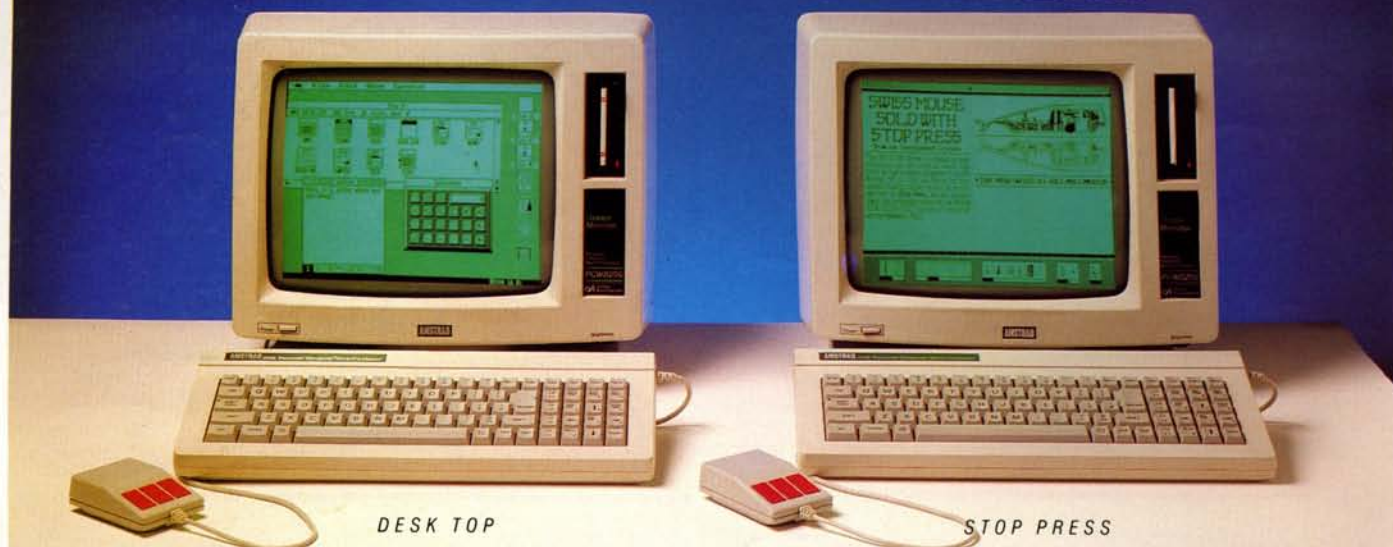
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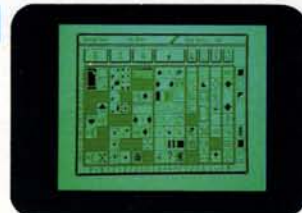
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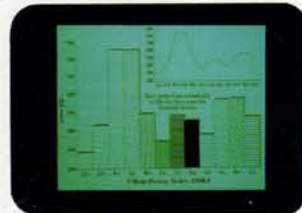
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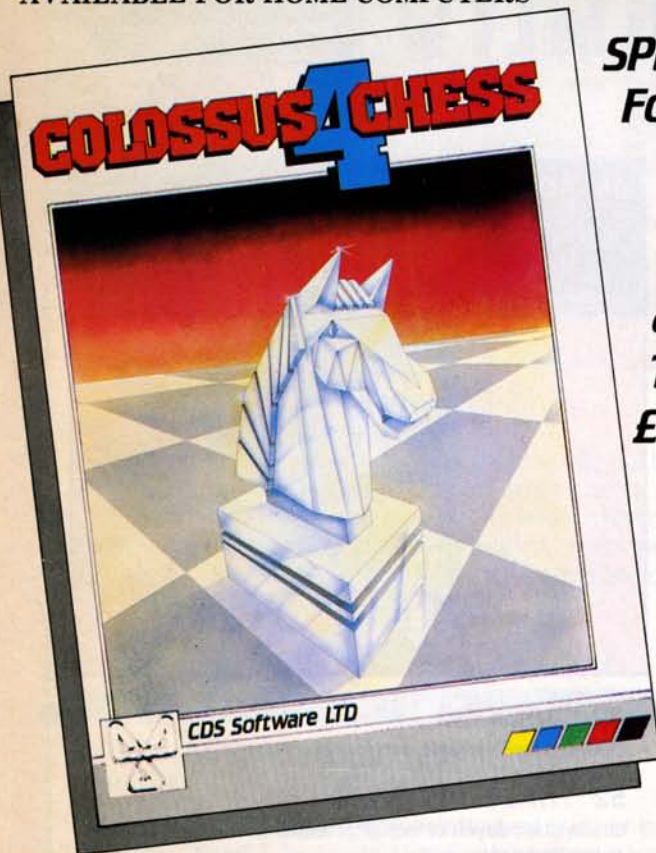
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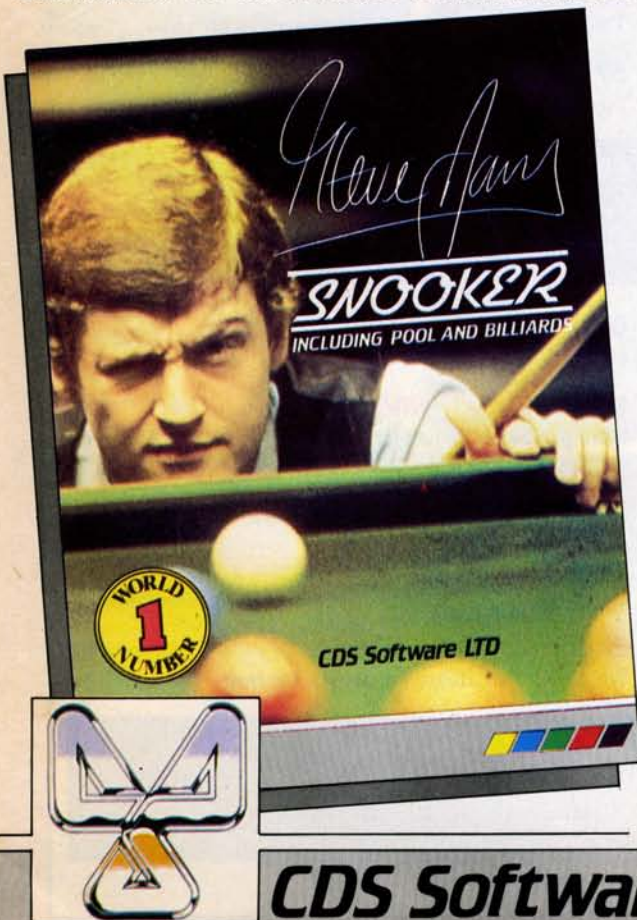


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THESE ENGLISH ARE CRAZY



being the new boy of the team, got lumbered with the rucksack and the hard work.

Of course the tandem had to be photographed stationary, and we propped it up with Alec and Rob balancing precariously. With the Royal Crescent nearby, crowds of bemused tourists gathered and soon dozens of

camera shutters were clicking. Such are the pressures of stardom.

Please note that Alec Rae was only pretending to be an eccentric Englishman for this photograph. He is really an eccentric Scotsman.

This month's cover photograph caused quite a stir in sedate old Bath when we went out on location. The gorgeous pouting cover models are no less than the 8000 Plus star writers Alec Rae (the dapper gent in the bowler) and Rob Ainsley who,

8000 Plus subscribers' disc

For the last couple of months we have been running the offer of a disc containing Prospell and our collected BASIC listings as an enticement to subscribe to 8000 Plus.

Prospell as it stands will *not* read LocoScript 2 files although there is a way around this, as detailed in this month's TipOffs. The program was written by Arnor before LocoScript 2 was released. Also, it appears that the instructions for running the various

listings did not cover the Logo programs. Any file on the disc with a name ending in .LOG must be run from Logo, not BASIC, which again is described in TipOffs this month.

We apologise for any bald patches or damaged wigs you may have suffered tearing your hair out over our instructions, but once everything is working we're sure you will agree it is a great value offer.

Follow the leader

Ever since issue 1 hit the news stands some people have been puzzled by the name '8000 Plus', which is of course chosen because it is the common denominator of the two PCW model numbers, 8256 and 8512. We also began referring to the PCWs as 'the

8000 series machines'.

It's been interesting to note recently how the phrase has spread. Reporting the launch of the PCW 9512, Putting Your Amstrad to Work (an arch-rival) headlined its news story with these familiar words.

IMMORTAL INPUTS

by Brick



VERTICAL TAKE-OFF

You know how it is when you buy a program to help your burgeoning Organic Okapi Farm business – it works, but the setup isn't really ideal for what you want. General databases and accounts programs are the jack of all trades and master of none.

One thing that has been noticeable over the last few months is the growth in what is obliquely called 'Vertical Software'. For those not in the know, this is software written specifically for a certain professional market. A database is a database, but if you sell a database set up with all the right fields for an estate agent to match up vendors and buyers then it becomes Vertical Software.

The evolution of these programs follows a reasonably straightforward path. A builder needs to estimate how much a contract is going to cost so he can put in a tender, and has trouble getting all the figures to balance. Either he owns a PCW or has a friend with some computer skills and a suitable program is knocked up. "Hey," he thinks, "if this program has helped me win a contract why can't I make a bit of money selling it to other builders?"

Why not indeed? The result is a plethora of small programs, probably distributed in a limited locality by word of mouth, which are most likely doing an invaluable job for someone's business. A few of these trickle in to the 8000 Plus offices for a review, but with the premium on space in a general magazine these highly specialised programs tend not to get much publicity. One barrier is that because the market for a vertical package is by definition limited the prices tend to be quite high in order to cover costs.

The purpose of all this rambling is to launch an appeal. We intend to do a feature in a future issue on what specialised software is around for different professions. If you sell this kind of software we would like to hear from you – this could be your chance to become a software millionaire. So get writing!

Be Taylor

8000 PLUS!

A few months of death, rumours and false reports... the new Amstrad PCW9512 was launched in Kent, Georgia in July. That has surprised the computer industry, which previously expected the machine to be launched first in the U.K. at the Personal Computer World Show in September.



The system cost a fable to... monitor which, in fact, is not a monitor at all.

8000 PLUS

The next issue of 8000 Plus will be on sale on Thursday October 15th – watch out for the *definitive* PCW9512 review.



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Rumours confirmed - PCW prices to drop

It turns out that all the rumours are true after all. Amstrad have just announced to their dealers what everyone had already guessed - that the new 9512 will cost £499 + VAT and that the existing PCWs will be reduced in price. As suggested both older machines will drop by £100, the 8256 now costing £299 and the 8512 £399 (both plus VAT).

The only surprise is that Amstrad are still refusing to admit the fact to the press - as 8000 Plus went to print the Amstrad press office were still refusing to make any comment.

This is despite the fact that Amstrad dealers have received an announcement headed "Rumours, rumours, rumours" which announced that all the rumours that have filled virtually every computer magazine in the country were in fact true.

Not that it took too much detective work to come up with these figures. The machine has already been on show in America at \$799 which converts quite nicely to £499 and it was pretty obvious that they would reduce the price of the existing machines to give them a boost and to create a differential.



Protext Price-Cut

Arnor have decided to shake up the word processing market again by cutting the cost of PCW Protext by £20 to £59.95 to bring it into line with the PC price. This is in line with an aggressive marketing policy that has seen the introduction of Pocket Protext and the cost of other Arnor products being drastically cut. Details from 0733 239011.

Locomotive Chug Along

Even with the launch of LocoScript II now out of the way Locomotive Software are keeping busy. Coming soon is a program to create new user defined characters, and a new technical manual for LocoScript II.

The program to create user-definable characters has taken slightly longer than intended but will be available with any standard upgrade once it is available.

A more technical user manual for LocoScript II is also on its way in the £15 to £25 range but the

printer driver generating program that was also on the cards looks doubtful because of the amount of detailed knowledge of the printers and the high level of technical knowledge required - hence the likely high cost because of the level of support that would be needed. It has been suggested that Locomotive might instead provide a specialist printer driver writing service. In the meantime Locomotive have already added a number of new printer drivers to their list.

More imminent is a configuration program that will allow you

to use any daisywheel on any daisywheel printer when using LocoScript II.

Another product nearing completion will be a new Mallard BASIC book, replacing the old turquoise ring binder. This has been revamped to tie in with the new 9512 and has new sections on Jetsam and GSX - a welcome addition. Examples of Jetsam and GSX are to be included on the 9512 CP/M discs and details of how to use these will be included. Locomotive's number is 0306 887902

Racoon Public Relations

Public relations success of the month was definitely Camsoft, the cuddly baby Coati from Chester Zoo. This all came from a press release consisting of a picture showing the baby racoon running about a PCW keyboard and a

rather touching story about Camsoft, after being abandoned by its mother is being trained like a Pavlovian dog to press the right keys with her nose to make soothing noises.

The cuddly animal happened

to have the name Camsoft, which by an uncanny co-incidence turns out to be the name of a range of products for the PCW from Cambrian Software which the zoo uses to keep track of its records.

Roger Grenyer, on hearing of the Coati's fixation with the PCW, has adopted the little creature and will pay for its upkeep at the Zoo. He has not decided yet whether or not to tell her that she's adopted when she's older.

The outcome is a story that has been covered by virtually every computer magazine and has nearly got on the front page of several popular daily papers. Could this be trend for future press releases? Will Sandpiper Software have a Sandpiper photographed perched on a PCW? The most impressive one will have to be Llamasoft if they catch on to the idea (Yes. There really is a Llamasoft).



Not a variation on the million monkeys writing on a million PCW for a million years to produce the entire works of Shakespeare (Why bother? We've got a copy at home). It's Camsoft, the cuddly baby Coati and part-time public relations scoop.

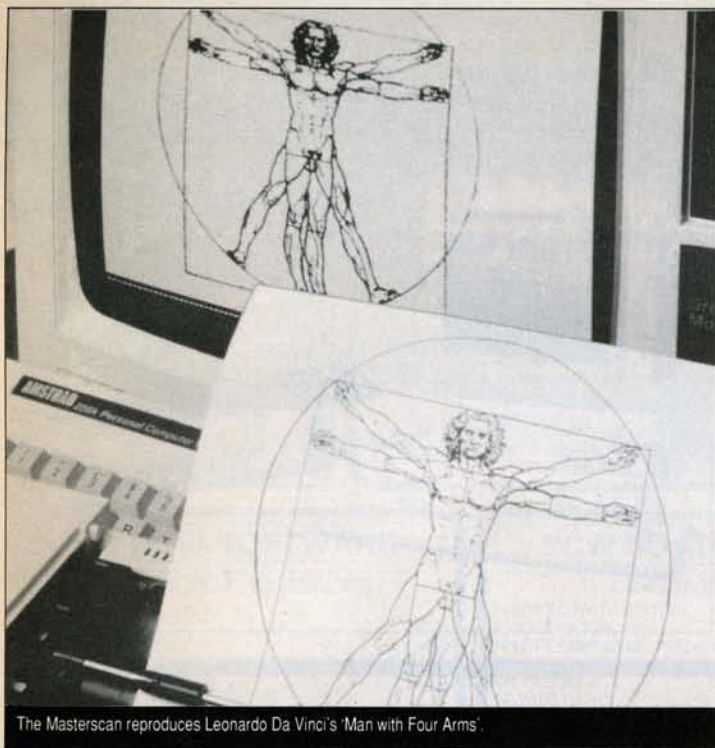
Tanadata Tester

Anyone thinking of buying one of Tandata's new V22/V22bis modems, the Tm722, will have a chance to try out its powers using Tanadata's special test database. This has been set up to show how well it performs in high speed data transmission.

You dial 0684 982424 and give the password Tandata. At the host end the Tm722 is set in auto reliable mode, working at seven bit, even parity, one bit stop. The Tm722 comes with a two-year warranty and costs £499 plus VAT. For details phone 9684 892421.

Euromark Leave the PCW market

Euromark International Ltd, the software suppliers are pulling out of the PCW software market. The company who offer a wide variety of games and business programs have decided to concentrate on the PC side of their business.



The Masterscan reproduces Leonardo Da Vinci's 'Man with Four Arms'.

Scan the Pages

Database Software have just launched a new low cost scanner which will reproduce images or text in your PCW. Masterscan, costing £69.95, is clipped on to the PCW printer head. The image to be scanned is fed into the printer and read, a line at a time, into the PCW.

The company claim that by using this method and a modem you can send images all over the world, making it a low cost fax-type machine although it is not compatible with fax machines as such.

What it does provide is an alternative to video digitisers and could provide an inexpensive source of illustrations for users of desk-top publishing packages such as Fleet Street Editor, Newsdesk International and the Desktop Publisher.

It is claimed that it can reproduce any part of an A4 page from half size up to six times magnification.

How To A Be An Incomplete Bastard

Virgin Games have acted very inconsiderately by producing their new game 'How to be a Complete Bastard' for virtually every computer invented except the PCW. We will not be able to enjoy the delights of 'Bastavision' split-level screen display nor the pleasures of incapacitating everyone at the 'Yuppie Party' by their particularly deviant behaviour.

So what does this tell us about the average PCW owner? Obviously that they are too refined to buy such a program. And what does it tell us about Virgin Games? Well we think they're a shower of b... rascals.

PCW owners have also been snubbed by Infocom who have launched an adventure game set to rock the Mills and Boon empire with they claim, the first interactive fiction aimed specifically at the female market.

'Plundered Hearts', it is claimed, gives you "salt air, steamy tropical nights and treacherous characters essential to heart-pounding adventure on the high seas." All this and a passion for a handsome pirate captain.

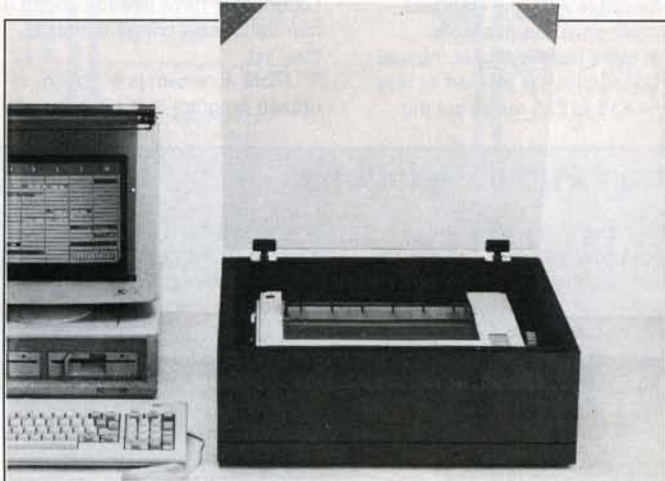
But despite the fact that there is probably a higher percentage of women amongst PCW owners than any other computer Infocom have missed the PCW off the list of suitable machines. At least Mills and Boon can rest that bit easier in their beds.

Expertise

Prospec Computer Systems, have gone beyond the field of public domain software with the release of a specially written expert system builder called Expert86. This is based on Donald Michie's Expert-Ease program. The program costs £4 (including postage) and is supplied with 83k of documentation on disc. A printed 73-page manual is available separately to registered users. Registration costs £19.95. For details phone 0773 48701.

The Sound of Silence

Kareware, computer safety accessory specialists, have just launched their new Soundshield, an acoustic printer hood. Playing heavily on the effects of stress caused by noise in the office environment the company claim that their "sophisticated box unit" can reduce noise levels by up to 15 decibels. The black or beige units are lined in fire resistant foam and have a tinted reinforced glass lid. All this for £89.50 plus VAT. For details phone 01 833 2958.



It's for you-hoo



Telecom Gold are using Dialup communications software at their training department in their London headquarters. Neeta Patel, Marketing Executive for Telecom Gold states that the simplicity of the software makes it ideal for first time users.

The software offers features

such as Kermit file transfer protocol for sending files over Multistream and sending ASCII or binary files, telesoftware download for copying software and EPAD for full error correction. Dialup Personal costs £89.95. For details phone 021 643 7688.



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First we designed a great word processor. Then we linked it with a superb spelling checker and added an incredibly powerful mail-merge facility. The system is called Protext and it's been phenomenally successful.

But still some people weren't entirely happy.

They didn't want a spelling checker. They had no use for a mail-merger.

*Now, with the introduction of **Pocket Protext**, PCW owners can enjoy the benefits of pure Protext word processing — without the additives.*

***Pocket Protext** contains all the outstanding word processing features that have made Protext so successful. It is very easy to use and includes clear, concise documentation supported by disc-based tutorials.*

It is also incredibly fast. Complex tasks, such as word search and replace, are completed in a fraction of the time taken by lesser programs. Screen updates, following operations such as block moves, are almost instantaneous.

Any printer can be linked to the system and a comprehensive set of disc utilities simplifies file handling.

*Of course, Protext is still available as the definitive text management package at £59.95. But for those of you who simply want a brilliant word processor, there's **Pocket Protext**.*

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PLANTING THE FAMILY TREE

Genealogist David Hawgood looks at the various ways you can computerise your family history on the PCW

Our own family is a natural interest for all of us. Who are those cousins we only see at weddings and funerals? How are they related to us? Is there anyone incredibly rich that might leave us a fortune? If you ask these questions, you will receive countless pieces of information – just the sort of information your PCW can store, organise, and print out neatly to show to the rest of the family.

To do this you can use LocoScript and a general purpose database. Alternatively, you could use a specialised genealogy package.

What type of information do you have in family history? You have a name, date and place of birth, marriage and death, identity of parents, spouses and children, a history of education, homes, jobs, property and hobbies. You may also have photographs and other pictures.

This gives you at least four different types of information, which may be handled in different ways in computers:

- **Relationships** – links between records of different people
- **Structured information** – name, date, place, which can fit in the columns of a table.
- **Descriptive text** – the life story
- **Graphics** – photographs and pictures.

If you get interested in family history you will be collecting, organising, storing and searching these types of information. For which parts of the processing of this information is your computer most helpful? There are various stages in recording a family history where you may find a computer can help you.

The first step is to write down what you know about your family. A letter to another member of the family is a good format. LocoScript is ideal at this stage. You can write a

draft, leave gaps where you can't quite remember, later come back and edit your letter to fill in the missing information.

Write an informal letter giving birth dates of your immediate family, marriages and children, where the family live, what you know about aunts and uncles and grandparents. Mention any special sources of information – who has the family photos, who has a birthday book.

Ask the family

Now start showing your letter and family tree to other members of the family. Ask them what information they can add. Write down what you are told and who said it.

You will get a great diversity of information, about people on different sides of the family. To organise this it becomes worth while to enter basic information about all the people into a database or a genealogy package.

You may be more interested in filling in the gaps in the family tree, and extending it to earlier ancestors. To do this you will have to start searching indexes to birth, marriage and death certificates. When doing this it is worth writing down all the references to the surname and forenames of interest for a couple of years either side of the expected one just to give a margin for error particularly if the names are common ones. Entering this information into a database is the ideal way to sort it out.

For England, the General Registry Office records of births, marriages and deaths start in 1837. Before that, you will need records of baptisms, marriages and burials kept by the churches. It is much harder to find people in these parish registers – you often have to search the register for each parish separately, so you need to know where your ancestors lived.

The census returns provide a good link. Those for 1851, 1861, 1871 and 1881 are most useful, as they give the age and birthplace of each person in a household. They are available on microfilm in the Public Records office, and in many public libraries.

Database history

You can use almost any database package to enter and organise information about the events in people's lives. A couple are particularly suitable.

Campbell's Masterfile has a major advantage, holding data as variable length fields. It is also easy and pleasant to use, with a good manual. Database Manager (At Last) by Rational Solutions has the advantage of providing a date format going back before 1900.

There are a number of fields you should set up in your database.

- | | |
|-------------|------------|
| • Surname | • Forename |
| • Event | • Date |
| • Relations | • County |
| • Place | • Source |
| • Note | |

You will want to sort records by date, certainly by year if not by month and day. 'At Last' provides this in its date format. For other databases you can put the date in year/month/day format. YYYYMMDD in digits (e.g. 18650927) is an international standard format. YYYYMMDD with month in letters, 1865SEP27, or better 1865 Sep 27, is easier to read but only sorts by year. Allow one extra character to show approximations ('c' for 'circa' or '?' for 'doubtful').

For counties, the three letter Chapman County Code, (for example LIN for Lincolnshire) is used widely and is printed in many family history books.

Relational database for relations

It is possible to set up a database with one record for every

Drawing Conclusions

You might be tempted to try to write a program in BASIC to draw family trees but in practice this turns out to be difficult because of the diversity of family structures. To draw family trees you have to cater for people who marry several times, or marry a cousin, or have very large families. It turns out that the best way to draw a family tree is to use a word processor.

Start by drawing a rough diagram on paper. Then type this in. You will be able to change the layout, and add more people to the tree. In LocoScript, laying out a family tree is easiest if you change the current layout to

pitch 17 (maybe you could create a special group and TEMPLATE.STD for family trees). Set the left margin at 0. Although you are limited to 136 characters it is easiest to avoid accidental word wrap by putting the margin beyond this, say at 150. Put in a tab every 10 characters. Type the family tree using the ordinary underline character for horizontal lines and the vertical bar ([EXTRA]+fullstop) for vertical lines.

A word of warning – it can take a long time to lay out a family tree on the screen.

person, and links to records of parents, spouses and children. However this becomes complicated to establish – you are likely to spend a lot of time learning about database design by trial and error.

The ideal is a relational database with two files. One holds information about individuals, with an identity number for each, also date and place of birth and death, where they are recorded. The other file has information about the date and place of marriages, with the identity numbers of the couple and their children. This needs a database like dBasell, and the skill to use it.

A simpler alternative has one file. Each person has five fields:

- Identity number
- Surname and forenames
- Date Place and Record of Birth, Marriage, and Death
- Father Identity Number/Mother Identity Number
- Notes, includes other marriages

When you sort out data using the field 'Father Identity number/ Mother Identity Number' it will print out the file in families.

These are some ideas to get you started on using a database for family history. Their advantage over a family history package is the flexibility – you set up the fields to suit your own family background. You might want 'rank' and 'regiment' for a military family, or 'court' and 'sentence' for a family of sheep stealers and poachers.

PERSONAL ANCESTRAL FILE

£59.00 • Kintech Computers • 0208 850176

Personal Ancestral File is a sophisticated family history package published by the Church of Jesus Christ of Latter Day Saints (the Mormons). It is sold in IBM PC, Apple and CP/M versions. The CP/M version was originally designed for Kaypro computers, but Kintech Computers have adapted it to run on PCWs.

Starting to use Personal Ancestral File is simple. It is designed to run on an 8512 using the two drives but it can also be run with a single disk drive, copying programs into the memory drive and using drive A for the data. Kintech say that copies delivered in future will be configured initially to run this way.

Set the computer to right paper setting by typing

PAPER F66,G0,C,D

and load the Family Records program. There is no configuring, no need to choose field names or data types or field lengths. All of that is preset.

You start with an individual and enter the name and what you know about date and place of birth, baptism, death and burial. The program allocates this person a Record Identification Number.

The easiest way to continue is to enter a marriage for this person next. You are prompted for information on the spouse, date and place of marriage, then for records of each child in order. Finally, the family is shown on the screen.

Any time you are about to enter information about a person there is a choice:

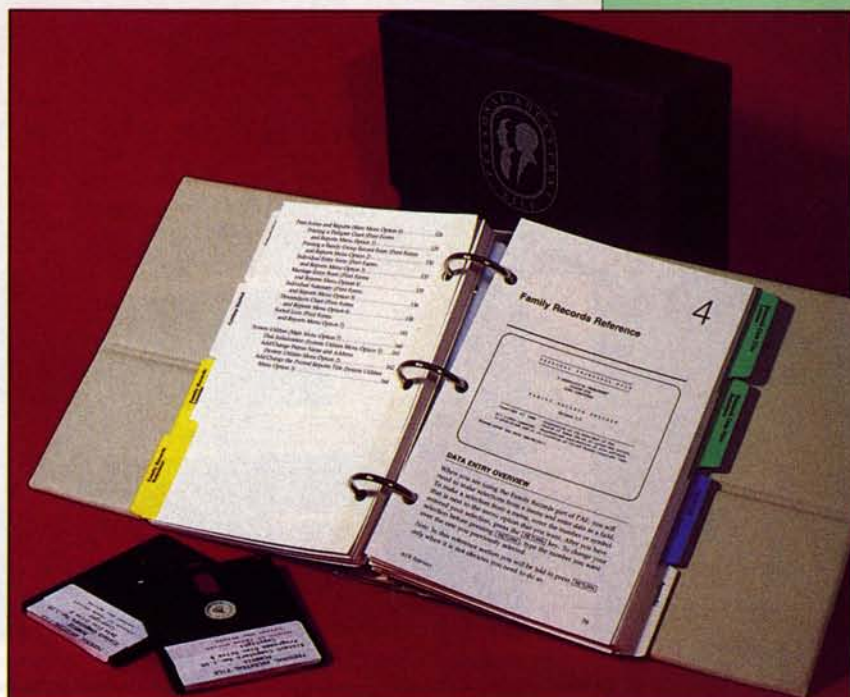
- 1 Not yet in file
- 2 In file, know Record Identification Number
- 3 In file, don't know Record Identification Number

If you don't know the Identification Number you search for it using any combination of fields. A person can be added into the file, and linked into a family later on. There is provision for multiple marriages and unknown parents.

Getting it right

To define the places you will be recording needs a structure like the lines of an address, e.g. parish, town, county,

country. Personal Ancestral File has four levels to a place name. You choose how to use them, but should be consistent.



It also has a quite sophisticated spell checker. When you enter a forename, surname or placename PAF looks it up in a dictionary. If it's not there, PAF bleeps and asks you to type it again. If both are the same, it is added to the dictionary. Having to enter names twice is irritating at first, but a boon later on as PAF catches a wrong entry.

PAF also makes a number of consistency checks. When entering a marriage, if it finds a marriage already in the file for either partner it asks if you want to proceed. If you try to marry one woman to another the program will stop you. It also checks dates – for instance, if you enter an exact baptism date the program will warn you if it was before the approximate birth date you had entered before. All this checking improves the quality of information.

Browsing through the family

You can also browse through the records – called a 'pedigree search'. Choose any person and a chart of parents, spouse and children is displayed. You can home in on any of those people as principal for the chart, or move to a family with another spouse for the first person chosen, or display full details for anyone shown. You can browse up, down and across the family tree.

This browsing is an interesting way to show the information about the family to others. Younger members of the family get interested, older members start to supply additional items of information. It can be used to find people in the records, and make sure you have entered all the marriages.

8256 view

Although PAF can be run on an 8256, the number of disc swaps needed on the review copy made this inconvenient. Serious genealogists would be well advised to use an 8512.

Different dates

Dates are always displayed and printed in the form 23 FEB 1839. This can be preceded by ABT (about) BEF (before) or AFT (after) or a range of years can be shown (for example 1838/9.)

Dates can be entered in a variety of formats. For instance:

About 1840	BEF May 1840
23 FEB 1839	Feb 23 1839
2/23/1839	1838/1839.



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1 14	Elizabeth BROMLEY-64	BEF	1763

Would you still like to add this person to the family? (Y/N) █

▲ PAF can summarise anyone's marriage history

To set out the information Personal Ancestral File has 12 different formats of lists and charts. For instance there is the **Family Group Sheet** - with information about a couple, their parents, their children.

The **pedigree chart** or **birth brief** starts from any person and gives date and place of birth marriage and death for parents, grandparents and great-grandparents.

Descendants charts list all descendants in families from one ancestor for up to ten generations. Each generation is indented a few more spaces.

People can be listed in name or identification number order. Each person has dates of birth and death, name of father or spouse.

One chart that is missing is the conventional family tree, showing children along a horizontal line below the names of their parents. This is surprisingly difficult to program because of the variations. You have to allow for cousin marriages, second marriages, marriages where the partners are related but of different generations. The easiest solution is to use a word processor to lay out a family tree.

A new family of computers

Families last longer than computers. How can you safeguard the information typed in, so you don't have to enter it again when you change your computer?

The Mormons' answer is a data transfer standard, GEDCOM. Personal Ancestral File includes a module which produces an ASCII file, a form which can be transferred to another computer. The Mormons are using this format to transfer data between micros and mainframes to build up a large family-linked database.

PAF also includes the **Research Data Filer** - a package within a package. Family Records is the main part of Personal Ancestral File, mainly for people known to be related. Research Data Filer is for source information.

You start collecting family history information by contact with relatives and looking at family papers. In due course you will find gaps which can only be filled by searching indexes to registers. Then you will have lists of births, marriages and deaths some of which are your family, others are apparently unrelated people of the same surname.

Genny information

Another family history package available is Genny, £35 from DCS of Stockport (061 439 4841). Facilities are meagre compared with Personal Ancestral File. Dates are year only, without month and day. Names are always entered, displayed and printed with surname then forenames.

Genny scores on simplicity of operation, particularly running on an 8256, where PAF

involves you in interminable disc swaps. All information is entered on one screen, date and place of birth and death, marriage date and spouse, names and birthdates of parents and children, and up to ten lines of notes. The Genny program files are all on one side of a disc. The data is specially condensed and held in memory while operating, and resaved to your disc on quitting.

▲ A typical screen while browsing through your family

▲ PAF can't produce traditional family trees, but it can do a "descendants chart".

databases. There is no link between Research Data Filer and the Family Records part of PAF.

PLUSES

- Full of sophisticated facilities
- Excellent manual
- Data transfer available for you to share your records with others
- 'Pedigree browsing' feature is useful
- Good report layouts

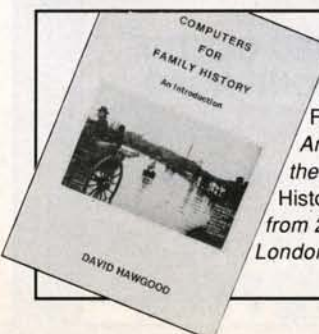
MINUSES

- Much swapping between menus
- Not written specifically for PCW, poor use of its special features
- Doesn't print out conventional family tree diagrams

RANGE OF FEATURES ■■■■■
EASE OF USE ■■■■■

PERFORMANCE ■■■■■
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■



● David Hawgood is a genealogist and computer correspondent for The Family Tree magazine. Amongst his published work is the book Computers for Family History: an Introduction, £2.00, from 26 Cloister Road, Acton, London W3 0DE.



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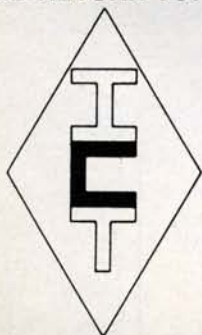
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Sales Ledger

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The first thing to decide when putting your business accounts on to your PCW is how seriously you are taking it. You can get a simple program that can be picked up in an hour (sometimes quicker if you read the manual). At the other end of the market you can get a system to do the same thing in three modules, each module taking a fair amount of getting to grips with.

At the end of the day the question must be, "will the extra time spent at the beginning bring you rich rewards in time and money when this sophisticated system is running smoothly."

Anagram Software's Sales Ledger must rate at the complex end of the market. The program works well and does what you want it to do but it makes little concessions to beginners.

If you opt for a sophisticated package you have to be prepared to put in the effort. This is certainly one occasion

▲ The screen when you start an invoice – all these fields are filled automatically from items you have preset

where reading the manual is worthwhile before starting. Before you can use the program you have to prepare a data disc filled with blank files created by the program and without this disc it just refuses to start.

The manual takes the sensible route by starting off with a thorough tutorial going through the setting up of a system. This certainly gives you a good idea of the structure of the program and gets you used to the rather idiosyncratic key-presses although perhaps more explanation of the rationale rather than inviting you to memorise seemingly arbitrary keys to press might have paid dividends.

The system probably pays more dividends to someone with a grasp of accounts. The manual gives only a basic explanation of accountancy theory and uses accounting jargon widely.

The keys have been changed....

The first thing Sales Ledger does is reconfigure certain keys for its own purposes. This means if you leave the program to go on to another program you have to start up again – unless you are content with a 'Y' being printed on the screen every time you press [ENTER].

Having used SETKEYS Anagram could have chosen a more rational approach to key-presses. On the PCW you seldom input information using the [f3] function key and it doesn't rate as the key your finger is most likely to find. Also having chosen [f3] was it not possible to standardise on [f3] rather than reverting to faithful old [ENTER] or even [f2] at other times?

These will seem petty niggles once you are using the program for a couple of days but even a little extra on-

HOISTING YOUR SALES

If you're a businessman and you didn't buy your PCW as a wordprocessor the chances are that you bought it to run some sort of accounts program. But many people find it's easier to find the right computer than to find the right accounts package. Anagram Systems have produced a series of packages to handle all sides of the sales, purchase and stock control including Sales Ledger, a program to handle sales records and invoice printing.

screen help could ease the initial difficulties always found getting into a new system.

Three little letters

On the other hand once everything is set up printing out an invoice is really quite easy. Before starting you call up a customer. This is simple needing only the first three letters of the customer's name to give you the right one or a choice of customers with similar names. When you start to fill in an invoice you already have many sections filled in from details already entered.

Sales Ledger handles details like discounts and VAT well. It checks entries while you are entering any information and if it doesn't like your answer it won't let you continue until it does, cutting out many simple errors. It also gives you the choice of changing any details after the invoice is printed before storing the information on disc.

The program doesn't keep a permanent record of transactions on disc so you need to use the extensive report printing options. Instead it compresses details removing all old entries (an invoice and payment that tie up for instance) leaving room on disc for new business.

One useful function is the quaintly named "Aged Debtors" report which tells you month by month how long you have been owed money.

Customers can also be classified according to their area code – a series of codes that you set to suit your own needs. Divide up all your customers up geographically into sensible areas or dividing the business up between salesmen so see quickly who is selling the most. These all have to be set up before you use them but it will probably repay the effort. **EXIT**

PLUSES

- Once you know the system you can move about easily and quickly.
- Invoice printing made easy.
- Handles customer details efficiently.

MINUSES

- Keypresses are a bit obscure
- System takes a bit of learning
- Best have some idea of accounts first.

RANGE OF FEATURES ■■■■■
EASE OF USE ■■■■■

PERFORMANCE ■■■■■
DOCUMENTATION ■■■■■

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It looks as if the Chancellor has been using the wrong Spreadsheet.

You need look no further than Essex for the Home Grown PCW spreadsheet with nearly as many facilities squeezed into an 8 bit edition as available with its 16 bit big brother. Look around the market and ask yourselves these questions before you take the first box on the dealer's shelf....

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WRITERS DO IT ON THE MOVE

You can't quite take your PCW with you everywhere you go, but you can now word process on the move. Ben Taylor investigates.

There's one problem with owning a word processor – you run the risk of becoming dependent on it. When you are typing away in LocoScript, any mistakes can be instantly erased, you can type paragraphs in any order and juggle them around to best effect as the mood takes you. After the power and flexibility of the PCW, going back to a pencil and notepad can be such a culture shock that your quality and rate of work is seriously affected.

The name game

Last year Amstrad (who else?) bought out Sinclair's product range, including the rights to the name 'Sinclair', for a bargain £5 million. As a result, you mustn't ever refer to the Z88 as the 'Sinclair Z88', or Amstrad will get very anxious and send you a rude note from their solicitors.

How often have you wished, as the 07.55 to London Paddington lurches over the points at Didcot sending your biro helplessly skittering over the rest of the page, that you had your trusty old PCW in your pocket? Well now you can... almost. What you need is a portable computer.

The idea behind portable computers is very simple. They are battery powered, compact and light, so allowing you to carry them in your briefcase and use on the train, plane or anywhere else out and about. You type in your notes, letters and other jottings as the mood takes you, and although there is no disc drive there is enough memory in the computer to hold your text until you get back to base. Once home, you connect the portable via a lead to the serial interface on your PCW and transfer the text to a permanent file. You can then use LocoScript or any word processor to read those files, make any final edits you like, and print them out.



Portable computers are nothing new, they've been around for ten years or more. Until recently, the prices of these portables were much the same as for a conventional computer. However, there are now two or three portables on the market at prices which are not much more than the cost of one of the major accounts programs on the PCW. Most notable among the newcomers is the Cambridge Computer Z88 – the redoubtable Sir Clive Sinclair's latest venture.

The Z88s storage memory works just like the M drive on a PCW. When you save a file it is held in memory chips, so there is no whirring of disc drives. Unlike the PCW's M drive the files are not lost when you turn the Z88 off, since the contents of the memory are maintained by four small batteries. In fact, even if you take the batteries out you don't lose your data – there is enough power held inside the machine to allow you about five minutes grace to get the new batteries into place. The batteries are claimed to last for about 20 hours when you are actually typing (ie. using the display), or about 1 year if left forgotten on a shelf.

The big question

The most important things to ask of any computer – portable or not – are "what can it do?" and "how easy is it to use?"

The Z88 comes with an impressive set of software, all permanently stored in the machine so there is no fiddling with discs before you can run a program. The most important part is the word processor, a novel piece of design which includes a spreadsheet built in. There is also a diary, calculator, calendar and alarm clock, a set of communications programs to help you transfer files to other computers, and a complete BASIC programming system with all the school-standard BBC BASIC commands.

The Z88 is a smart matt black box 290 by 210 by 24 millimetres weighing about 1 kilogram. It has a liquid crystal display (LCD), which is the black-on-grey beloved of digital watch manufacturers. It has a rubber-clad keyboard rather than the conventional click action PCW-style keys. In fact, although this feels very strange at first it is perfectly adequate and very quiet. Most of this review was written on the Z88, and at around 40 wpm the keys all make good contact apart from an occasional space – you can sometimes find several words run together. You can optionally set up a beep whenever a key is pressed if you like to hear key

clicks as you type. The lack of the traditional clattering keys could be a real boon if you are working in a library, or anywhere where you need to be discreet.

The display has a contrast control, is very steady and shows six lines of text 80 columns across. The whole system is operated from menus, and the menu titles are shown at the side of the screen. If you know how to use LocoScript, you should find the way the Z88 operates reasonably easy to adapt to, with menus and alternative keystroke abbreviations.

There is a 'foot' beneath the machine to prop the display up if you are using it on a desk, and at the side is a serial interface for connection to the PCW.

It's all a pipe dream

The word processor is naturally the main part of the Z88's software. It is very different to any word processor you will have used before, and unfortunately the manual doesn't really explain the novelties sufficiently.

Tantalisingly named 'PipeDream' (there must be an in-

Pay to increase your word power

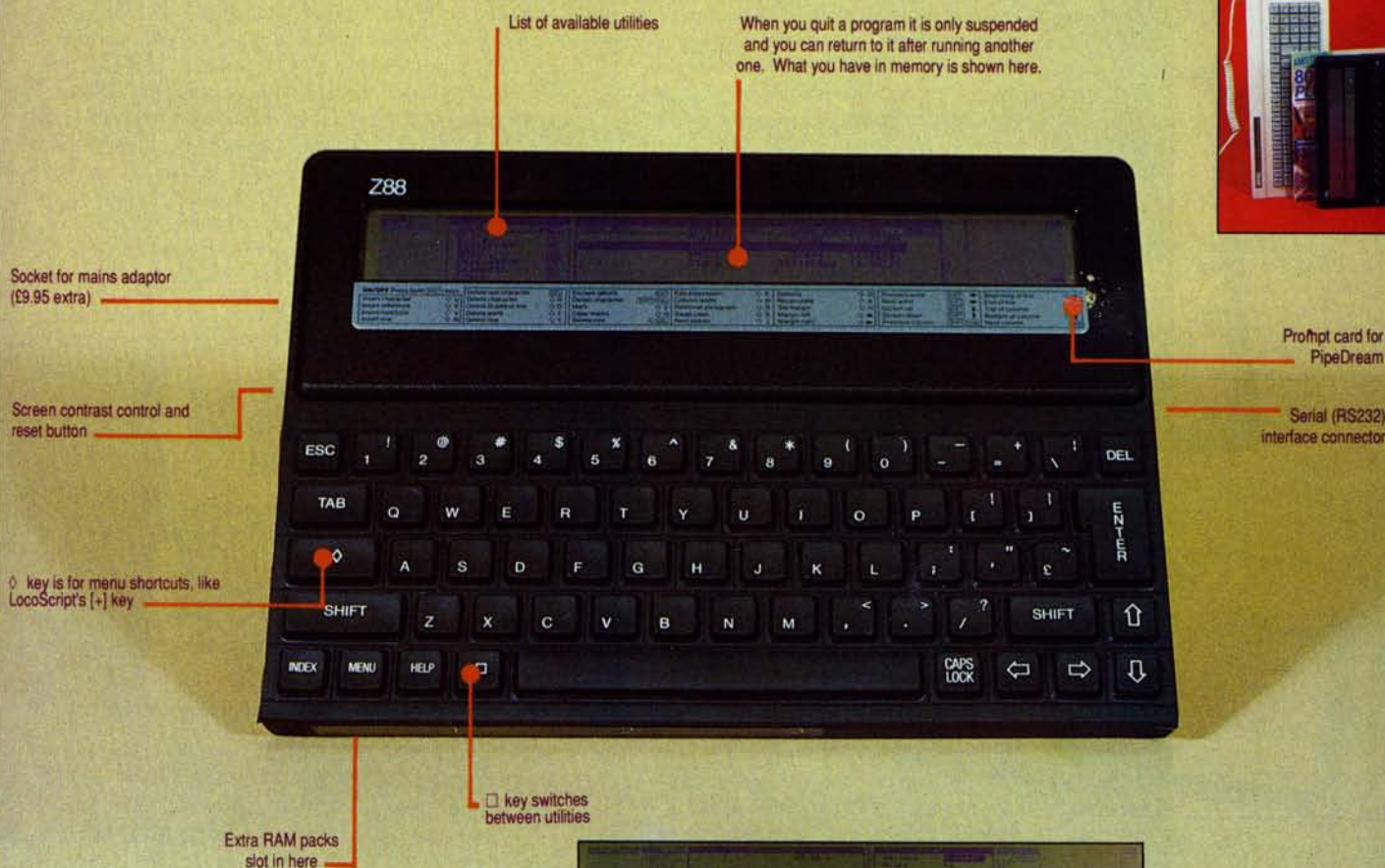
The Z88 comes with 20k of spare memory as standard, which isn't really enough to do any serious work in. This memory has to provide for all the programs and the file storage space which means that you can't edit a file larger than about 9k (1500 words) given your 20k. If you try to run too many programs at once you can get a peremptory beep and 'No Room' message, when all you can do is 'Purge' the workspace.

Purging doesn't lose any stored files but aborts the current sessions and loses any unsaved text you were working on. You can send your current PipeDream file to the PCW

by printing it out, which effectively sends it via the serial interface in the normal way.

All is not lost. You can buy up to three 'RAM packs' of 128k each which cost £49.95 (RAM, incidentally, is an acronym for the jargon phrase 'Random Access Memory') which just slot in. Having extra memory allows you to edit bigger files, store more files, not worry too much about housekeeping and have bigger BASIC programs. The maximum basic program size is 40k in any case, but only 8k if you don't have an extra RAM pack.

It is definitely well worth buying one RAM pack if you are going to use the Z88 seriously.



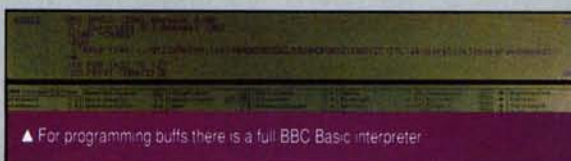
joke somewhere behind that name), the word processor is also a spreadsheet. This means that you can not only type in words but also columns of figures and formulae and get the program to tot them up for you.

You can almost ignore the spreadsheet side of things and just type in your text, but there are a few quirks of the word processor which may puzzle you if you have never used a spreadsheet. The screen is initially ruled into 6 columns 12 characters wide each. You can just go to column 1 and type away, and all the text will go in normally, wrapping onto a new line at the end of the screen. The [TAB] key is unconventional and is designed for spreadsheet use: pressing it takes you to the next of the six columns, and all your text will be left-aligned to that column in future (a bit like LocoScript's [ALT]+[TAB] way of doing hanging text indents). Generally, you can't use the [TAB] key for text formatting, but should use spaces instead. Pressing [TAB] in the middle of a line can have the alarming effect of seeming to delete the rest of the line, when in fact it has merely hidden it to make room to display a column of figures.

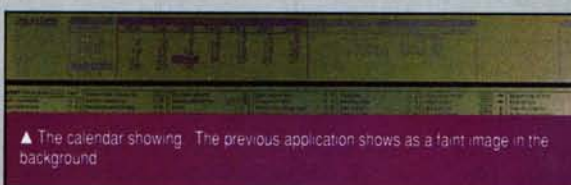
The other oddity of the word processor is the way it handles line breaks. Although text will automatically wrap onto a new line when it needs one, you can't use the delete key to go back over a line break – instead you have to use the cursor keys to move to the end of the line above, then carry on deleting and finally reformat the paragraph. Pressing [ENTER] (which corresponds to the PCW's [RETURN] key) in the middle of a line doesn't create a new line – instead you have to give explicit commands to insert a blank line, split the current line or join two existing lines together.

Aside from this all the standard word processing features are in PipeDream such as Find, Search and Replace, Block Move, Copy or Delete, and even a sorting command and

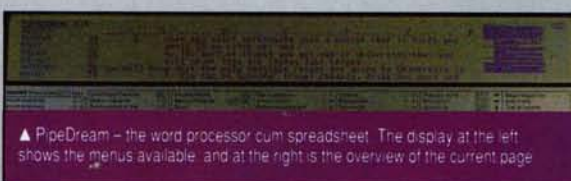
▲ The calculator having just converted 10 gallons into litres.



▲ For programming buffs there is a full BBC Basic interpreter.



▲ The calendar showing. The previous application shows as a faint image in the background.



▲ PipeDream – the word processor cum spreadsheet. The display at the left shows the menus available, and at the right is the overview of the current page.

word counter. Just like LocoScript there are keystroke shortcuts to avoid the tedium of using menus, and the most common ones are sensibly noted on a reminder pad below the display. Another nice feature is a small display at the right of the screen showing the current page. Since you can only see six lines at a time it gets hard to remember what the

▲ The Cambridge Computer Z88 showing its main index menu screen

Jargon buster

The 'baud' rate of a computer link is a measure of how fast files are transferred. 9600 baud is 9600 'bits' per second, and in this case we use 9 bits per character (8 bits for a byte plus one 'stop' bit), so 9600 baud is over 1000 characters per second. Baud, incidentally, is pronounced as in 'bored', 'boughed' or 'bode', as you like.

page looks like, so a diagram with one dot per character on the page shows the current overall layout.

PipeDream has full capabilities to paginate text with numbers, set header and footer zones and so on, but if you are going to transfer a document to a PCW word processor this is not very relevant. Such features are only useful if you are going to print directly from the Z88, which not many people will be doing. The designers have not included a standard Centronics (Parallel) interface which modern printers use, so unless you have a printer with a serial interface you cannot print directly.

The benefit of living with the word processing quirks described before are apparent when you start manipulating figures. Because the screen is ruled into rows and columns, you have an integrated spreadsheet that can add columns of figures into your document.

As with any conventional spreadsheet you can either type in a simple number, or an expression to be calculated. The cells of the screen grid are referred to by the letter of their column (A, B, C ...) and the number of their row. For example, A1, F22 and so on. Suppose you had a sales sheet with discount figures to work out, you might put the gross price of an item in cell A1, the percent discount in B1, and then type into C1 the formula $A1*(1-B1/100)$ to work out the net price.

You can 'replicate' the spreadsheet cells with the PipeDream 'Block Move' commands to do this same calculation for a whole long table of items at once. As well as the traditional spreadsheet calculation commands, PipeDream can also sort columns of data into order, alphabetically, numerically or in reverse.

PipeDream, overall, is an innovative and useful word processor. It has a couple of niggles on the text handling side owing to its alter ego as a spreadsheet, but once you have got used to the new way of working the benefits outweigh the disadvantages.

The other side of the Z88

While the word processor is the main topics of interest, the Z88 has a variety of other software which makes it a very useful tool in its own right.

For a start, there is a complete version of BBC BASIC.

This allows you to write your own programs, and has all the necessary functions to read and write files and even program in Z80 assembler. However, even if you fit expansion memory there is only 40k of workspace available.

Next comes the calculator, which provides all the standard arithmetic functions and a selection of imperial to metric conversions. Just type 10, select 'Gallons to Litres', and up pops 45.46, the corresponding number of litres. For more complex maths like trigonometry you will either have to use the BASIC or the spreadsheet facilities in PipeDream.

The Z88 has a clock built into it, so an alarm program lets you set beepers to go off and leave yourself reminder notes. You can set the alarm to go off at fixed intervals, say every Monday at 10am, or every hour on the hour. The beeper is not all that loud, and you probably wouldn't hear it if the machine were in a closed briefcase.



▲ Tandy 102

A calendar lets you look at any month since the Gregorian calendar began in 1753, and you can look up what day of the week a specific date was.

You can swap between these various programs very rapidly with the command key, \square and a single letter for the program you want. For instance, if you are editing a file in PipeDream, \square B takes you into BASIC, \square C takes you on to the Calendar, and \square P back to the file you were editing in PipeDream. You don't need to explicitly save files, exit programs and run new ones. However, if you don't have the expansion memory you may find there isn't enough room to edit text and run several programs at once.

Getting your typing onto the PCW

So you've filled up the Z88's massive memory banks with all your typing, what do you do now?

In theory it is possible to print out directly from the Z88, but only if you have a printer with a serial interface, and certainly not to the standard PCW printer. To get hard copy you will need to transfer the file to the PCW, and in any case you will want to store it on floppy disc to be able to free up the space on the Z88 itself.

You will need a serial interface unit for your PCW, which costs around £60 from Dixons, or less if you scour the mail order adverts in the various Amstrad magazines. You will also need the special connector cable for the Z88, which costs £9.95.

Once you have typed all the text into PipeDream, you save the file to the Z88's storage area (using 'Save as plain text', akin to LocoScript's 'Make ASCII file' command). Now start up CP/M on the PCW. The important thing to do is to ensure that both the PCW and Z88 are going to use the same transmission speeds, otherwise they won't understand one another. Both initially expect to use 9600 baud, so that's fine. The Z88 wants to use 'Xon/Xoff protocol', which is a safety measure in case the transmitter goes too fast for the receiver, so to set the PCW up you must have your CP/M disc with SETSIO.COM in the drive and type

SETSIO XON ON

and it will respond with a line of gobbledegook summarising

Other options – Tandy 102

The Z88 isn't the only portable on the market, although it is about the cheapest. If you take against some of its idiosyncrasies, what are your options? The Tandy 102 (£343.85, Tandy stores) is a similar kind of machine, having as it does a full QWERTY keyboard, 20k of memory if unexpanded, an LCD display, built in word processor and communications software program.

Compared to the Z88, one advantage is that it has a conventional click-press typewriter keyboard as opposed to rubberised pads. The word processing software treats lines of text in a more conventional way to the Z88, but is not in general as sophisticated (there is certainly no spreadsheet capability, for instance).

The display is only 40 characters wide, which means that you can't fit all of one A4 line of text onto a screen line. Conversely, the screen text is much larger and you may find it easier to read.

Finally, the Tandy 102 has a more comprehensive set of communication options to the big world outside. As well as a serial port for transferring files to other machines, it has a parallel (Centronics) port for easy connection to standard printers, so you can get hard copy without needing to use a go-between computer. There is also a built-in modem for connecting to Telecom Gold and other on-line services directly. All these go to make the 102 significantly bulkier than the Z88.

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the current settings. All is now set, so plug the lead into the two machines.

Suppose you have saved a file on the Z88 called 'TAKEOVER.BID', a letter to Alan Sugar offering to buy his Amstrad shares for 5p each; how do you get this onto the PCW? You need to use PIP: type on the PCW

```
PIP TAKEOVER.BID=AUX:
```

(you will of course need PIP.COM on the current disc). This means 'Dear PIP, please create a new file called TAKEOVER.BID on the current disc drive, and put into it all text which comes into the AUXiliary port', ie. the serial interface.

On the Z88, start up the 'Import/Export' program, choose the 'Send file' option and type the filename TAKEOVER.BID followed by [ENTER]. The only tricky bit is to tell the PCW that you have finished, and for this you have to send a 'Control-Z' character from the Z88. To do this, change into the 'Terminal' program, and just press the \diamond key and Z. The PCW disc will now whirr as it tidies up, and return you to the A> prompt with the file all properly stored.

```
B>setsio xon on
9600 Bits 8 Stop 1 Parity none Xon on Handshake off Interrupt off
B>pip takeover.bid=aux:
B>
```

▲ Setting up your PCW to accept files from the Z88.

You now have the text file on floppy disc, which a word processor can read. If you want to read it into LocoScript, start LocoScript up, create a new document and use the 'Insert text' command to read the transferred file (which is an ASCII file). Now you can carry on as per normal LocoScript.

You will need to delete a few characters of junk that the Z88 send at the beginning and end of the file. More importantly, every line from the Z88 is ended by a [RETURN] character, which you don't want if LocoScript is to format paragraphs and justify margins. If you globally replace space-[RETURN] by a space, you will get rid of these spurious [RETURN]s. If you show the effector symbols in LocoScript it is clearer what is going on. Also, for technical reasons £ signs come across as 'BA3', so you will need to do an [EXCH] to replace these.

You can if you wish transfer files from a PCW to the Z88. You might, for example, want to mull over your takeover bid on the train later on.

Again, you need PIP on the PCW and the 'Import/Export' option on the Z88. As a once off, you should create a PCW file called something like END.Z88 which contains just the characters Escape E. Do this by typing

```
PIP END.Z88=CON:
```

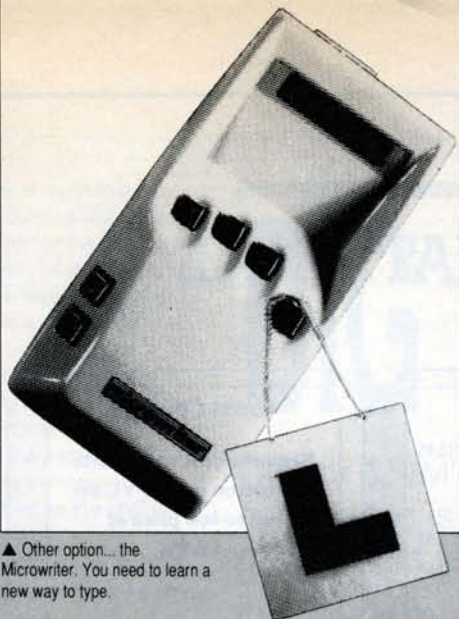
```
[EXIT]E
```

then press [ALT] and Z together. On the Z88, choose Import/Export's 'Receive file' option and give the file a name. On the PCW, give the command PIP [RETURN], wait for the asterisk prompt and then type AUX:=TAKEOVER.BID (or whatever the file is called) which sends the file to the Auxiliary port instead of receiving it. When the * prompt reappears, type AUX:=END.Z88.

When the Z88 reads the 'escape-E' in this file, it knows the transmission is over. All that is left is to switch into PipeDream, load the file as a 'plain text file' and edit away.

Verdict

Throughout the review period the Z88 faithfully stored all the documents in its memory, and didn't crash once. The display



▲ Other option... the Microwriter. You need to learn a new way to type.

lettering proved pleasant to read and the keyboard – after the initial tactile shock of rubber keytops – quiet and efficient.

The first 2,000 words of this article were typed onto a Z88 between Bracknell and Bath. The only real problem was memory workspace. The review machine did not have any extra memory packs and the standard 20k proved very constricting.

The Z88 does its job very smoothly and effectively. As a way of typing up text away from your PCW it is simple and painless to use, and there are plenty of other useful facilities on it. Only time

will tell how physically robust it is. Above the £280-odd price you will need to buy at least one extra RAM pack and a serial connector lead to make it useful.

When it comes down to it, only you will know whether a Z88 will be useful to you. That is rather a cowardly way of ending a review, but it is true: if you work away from home at all, or would like to, be it taking notes in the university library or jetting around the world, the Z88 could be invaluable adjunct to your PCW. Even at home the Z88 could be handy, allowing you to type in the living room with the rest of your family rather than stuck away in your PCW den all day. If you can't see yourself word processing except in your study then it might become a white elephant.

EXIT

Z88

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PLUSES

- Small, light and quiet to use
- Comprehensive range of built-in software
- Word processor is full featured and has integrated spreadsheet
- LocoScript users will adapt easily to the menu way of working

MINUSES

- No Centronics port for direct printing
- Word processor oddities may be disturbing at first
- Documentation is not well written
- Need to buy extra memory cards to be useful

RANGE OF FEATURES ■■■■■
EASE OF USE ■■■■■

PERFORMANCE ■■■■■
DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

Other options – Microwriter

If the idea of carting a QWERTY keyboard of any kind around appals you, then you might be interested in the Microwriter concept.

The Microwriter design is quite old now – about five years – and there are rumours that supplies of the current model are being run down pending a new version next year. Essentially, the Microwriter is a box with six keys, the size of an outstretched hand. The idea is that there is one key for each finger on one hand, plus a command key. You can store text in it and transfer to a main computer at the end of the day as with the other portables. To type a letter, you press the correct combination of the five keys for the letter in question – for instance thumb, index and middle finger for 'd'.

Obviously this method of typing takes time to get used to, but the design has many adherents who insist they can type around twice as fast as they can write. Apart from the strange way of working, the other drawback is the display – there isn't one to speak of. You can see the current dozen or so characters, and do some basic editing, but it may be tedious to try to do much editing on before transferring the file to your main word processor.

The Microwriter range starts at £228.85 for an 8k memory (prices depend on how much memory you want in it) and further details can be had from 01-685 0300.

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E&OE

Starting from basics, PIP is a way of copying a file. When CP/M addicts talk about 'pipping' a file they mean copying it – it's an extension of the old adage, "There ain't no noun that can't be verbed". To copy a file, give the command PIP, then the name where the file is to be copied to (the 'destination'), and finally the name of the file to copy (the 'source').

As per the usual CP/M convention, disc drives are referred to by their letter and a colon (A:, B: or M:), then the filename follows. If you are copying a file from one disc to another and want the copy to be called the same as the original then you needn't specify the new filename – PIP assumes the copy is to be called the same as the original unless you tell it differently.

You need to have the file PIP.COM on your current disc drive, or somewhere on your PCW anyway. Here are a few examples to clarify things:

PIP M:=ZEBEDEE.DOC

(Make a copy of the current disc's ZEBEDEE.DOC file in the M drive)

PIP M:FLORENCE.DOC=ZEBEDEE.DOC

(Ditto, but call the M drive's copy FLORENCE.DOC instead of ZEBEDEE.DOC)

B:PIP M:DYLAN.DOC=A:DOUGAL.DOC

(PIP.COM is on the B drive, and use it to copy DOUGAL.DOC from the A drive to DYLAN.DOC on the M drive)

Just remember, PIP destination=source – 'd' comes before 's'.

There are two ways to run PIP. Either type PIP before every line of files to be copied as in the above three examples, or you can go into PIP's 'multiple command mode'. Type PIP [RETURN] and you will see its asterisk prompt appear. You can now type just the command M:=ZEBEDEE.DOC or whatever. This has the virtue, if you are copying lots of files, of saving you typing three letters each time and also making PIP much faster. Normally whenever you type PIP CP/M has to look for PIP.COM, load it in from disc and then run it. In multiple command mode it needs to do this only once. You can leave multiple command mode by pressing [RETURN] or [STOP] – if you are copying one file it is simpler just to precede your command with PIP which returns you to the CP/M A> prompt when the operation is completed.

You can use PIP to merge files while you are copying them. If you had written your grand meganovel as one chapter per file, you could merge them into one by

PIP

BOOK.DOC=CHAPTER.001,CHAPTER.002,CHAPTER.003

...

Just put all the files to be strung together one after the other on the 'source' side of the equals sign. Bear in mind that PIP doesn't like spaces in command lines except immediately after the PIP itself.

Go wild in the country

One of the of the most useful features of PIP's file copying powers is the use of 'wildcards' – those strange symbols that allow you to move any number of files of similar name at the same time.

The two wild card symbols are * and ?. If you use these symbols in a filename that CP/M is expecting, ? is taken to stand for any letter and * for any number of letters. Use the wildcard symbols instead of the filename and all the files that fit the criteria you have set down will be moved. So if you have 10 files ending '.COM' you can move them all to M drive by typing PIP M:=A:*.COM. If you want to move all the files named DOCUMENT.001 to DOCUMENT.009 to B drive type PIP B:=A:DOCUMENT.00? and the files will move. MYFILE.DOC, MYPROG.COM and MYPROG.BAS could all be moved to M: with the command PIP

M:=A:MY*.*,

BIG PIPSQUEAK

One of CP/M's most useful and powerful commands is PIP, but it's also the command newcomers fear most. Alec Rae investigates.

If you are starting to branch out from LocoScript into the big world of CP/M, you are probably accruing piles of discs and backup discs with all the files you need spread over about ten of them. One of the first utilities you have to get to grips with in CP/M is the Peripheral Interchange Program (PIP to its friends) which allows you to copy files from disc to disc. And yet PIP can do so much more to help you control your disc files, it seems a crime to only use the barest and simplest facilities that this clever little program can provide.

PIP M:=A:MY???.* would move MYDOC.BAS but not MYFILE.BAS – because you used just three ?s and there are four letters in FILE. You have to provide the correct number of ?s. The most useful is obviously PIP M:=A:*,* which will move every file to M drive.

What are your options?

PIP has a hundred and one hidden features which you get to by using its 'options'. Options are extra command to PIP which you put in square brackets immediately after the command line (no spaces between the file names and the

Quick filing

After copying files, arguably the most useful function of PIP is the ability to create short files without having to use an editor.

Say you want to create a Submit file that automatically loads your BASIC program GERBILS.BAS. You just type PIP PROFILE.SUB=CON:

The cursor moves to the next line and you can type in BASIC GERBILS [RETURN]. Finish the operation with an [ALT]-Z. Then assuming you have SUBMIT.COM, BASIC.COM and the CP/M .EMS file on your disc the machine will automatically load BASIC and load GERBILS.BAS each time you start up using the disc.

There are problems in that you can't edit any mistakes that you make while typing – you can't even use the delete key. In fact it is easier to give up and start again if you make a mistake. Also, you must press [RETURN] then [ALT]-J for each new line – [RETURN] moves the cursor back to column 1 and [ALT]-J to

the next line.

Perhaps the most important advantage of creating files using PIP is that you can put 'Escape Codes' directly into a file. Escape Codes are the instructions that you can give the computer to do something special to the screen or printer.

The most useful example is the simple clear screen routine. You can clear the screen by typing directly at the keyboard [EXIT]E[EXIT]H. To make life easier you can create a file that has this written in it. Type PIP CLEARSCR=CON: so that anything you write on the screen will be written to a file called CLEARSCR. Type in [EXIT]E[EXIT]H and press [ALT]-Z to leave PIP. Any time you do TYPE CLEARSCR now the screen will be cleared.

All the 'Escape sequences' that the PCW recognises are listed on page 139 of the PCW CP/M manual.

opening square bracket). For instance the letter [C] will make PIP ask for confirmation before copying files. If you want the majority of files on your disc copied you type PIP M:=A:*,*[C] and then you will be asked MYFILE.DOC (Y/N?) and so on for each file on the disc so you can decide

Mergin note

Don't be tempted to try the merging trick with LocoScript document files as it messes up completely, although you could do it with ASCII files created from LocoScript.

which files go and which don't. Just press Y to copy it, N not to copy it, and [STOP] to abort the whole copying process.

Other useful options are [A], designed to help you 'Archive' (ie. back up) your files. PIP marks files that have already been archived, and if you use the [A] option when copying files with PIP only files that have been altered will be copied. So at the end of each day `PIP B:=A:*. * [A]` will back up all files you have changed that day without copying the entire disc.

The [G] option lets you read and write files to specific user groups. LocoScript, as you know, stores files in groups 0 to 7, so you could take a LocoScript disc and copy a document from group 3 to group 0 by

```
PIP A: [G0]=A:MYFILE.DOC [G3]
```

The [Z] option is useful to prepare a WordStar or Protext document for another word processor like LocoScript. It pays to make a copy of the document first of all with the [Z] option - `PIP MYFILE.NEW=MYFILE.DOC [Z]` - and load the new copy instead of the original. This removes all the strange formatting characters that WordStar etc. keep in their files (for the technical, it strips the eighth bit of the byte, or 'Zeroes the parity bit').

PIP to anything

PIP is not only used to copy files to discs. You can use the printer, the screen or the serial interface using this trusty utility. What does that mean? Well for a start if you wanted to quickly print out a text file all you need to do is type `PIP LST:=MYFILE.DOC` and MYFILE.DOC will be printed out. LST stands for 'listing device', what we in the computer world now call in our new fangled jargon 'a printer'.

Also note that if you are sending anything to or from a device you need a colon after it as though it were a disc drive - as in LST:.

PIP at your fingertips

PIP is a program that you will find yourself using a lot, but it is tedious to have to remember to put PIP.COM on virtually every disc you have. If you want to run PIP and it isn't on your current disc you have to swap discs, find your CP/M disc, type PIP [RETURN] to get into Multiple Command Mode, put your old disc back in and then do the command you wanted all along.

A better way is to make sure your CP/M startup disc has a PROFILE.SUB file on it with these lines somewhere in it:

```
SETDEF M:,*
PIP M:=PIP.COM
This copies PIP.COM into the M drive so that
no matter what discs you have in A or B it is
always available. The first line of the pair
makes CP/M look in the M drive for any
command you give so that, if your current
drive were A, if PIP.COM is not on the A disc
CP/M will find it and run it from drive M
without you having to remember to type
M:PIP.
```

Why not turn your PCW into an instant typewriter with `PIP LST:=CON: ?` 'CON' is short for console, meaning either the keyboard (in the context of inputting data) or the screen (for output). Then anything you type will be printed out when you press [RETURN] just like Direct Printing in LocoScript. You will need to press [ALT]-J after each [RETURN] for a new line. To finish press [ALT]-Z.

```
PIP CON:=MYFILE.DOC [Z]
```

is a useful command which prints the named file to the screen, much as CP/M's TYPE command does. The virtue of PIP used with its [Z] option is that if the document is a WordStar or Protext file it will be displayed correctly on the screen, whereas TYPE would list it out with strange line breaks and hieroglyphics at the end of each word.

PIP is also the first utility to try in passing files back and forward through the serial port. If you are linked to another computer through a serial interface you can use `PIP files=AUX:` to accept files or `PIP AUX:=files` to send them. As a good example see this month's cover feature with details of how to move files between the Cambridge Computer Z88 and the PCW.

Optional extras

There seem to be as many different parameters you can set on PIP as there are letters in the alphabet although some of them become so obscure it is difficult to think up practical uses for them. PIP parameters can be combined together, within the one set of square brackets, eg. `PIP NEWFILE=AUX: [ZT8RV]`. Here is a complete checklist of all the PIP options:

- [A] Archive. Only copies files that have been changed since the last back-up.
- [B] 'Block mode transfer'. We don't know what this one is for!
- [C] Confirm. Asks for confirmation before copying each file.
- [Dnum] Delete. Deletes all characters past the column specified in the number. Use for files where the lines are too long for a device such as an 80 character printer.
- [E] Echo. Will type out a text file on screen as it is transferred, eg. `PIP LST:=CON: [E]`.
- [F] Filter Formfeeds. Takes out all the form-feeds in the document. To change the page lengths in a document see [P].
- [Gnum] Get. Will copy a file to or from the group number specified in the source or the destination file.
- [H] Hex. Checks data for hexadecimal format file. Reports any errors.
- [I] Ignore. Ignores :00 when transferring hexadecimal format files.
- [K] Kill. Suppresses the list of file names on screen when carrying out multiple operations like wildcard transfers.
- [L] Lower Case. Changes all capital letters in a file into lower case as it copies.
- [N] Number. Adds line numbers starting at 1 and increasing by one as the file is copied. Using [N2] adds line numbers starting at 000001 and increasing by one.
- [O] Object file transfer. For transferring machine code files. Greatest advantage is that it will ignore any 'Control Z' in the file which would normally be taken as the end-of-file mark and stop the copying of the file.
- [P] Page Inserts form feeds (end of page) every 60 lines. Use [Pnum] to set the form feeds at a specific number. Normally used with [F] to take out the form feeds already in the file.
- [Qstring^Z] Quit. Stop copying the file at the word or words in the string. The string must be ended by ^Z, ie. [ALT]-Z. Can be used with [S] start option.
- [R] Read system files (as set up by SET filename [SYS]). Normally system files are ignored by PIP.
- [Sstring^Z] Start copying the file at word or words in the string. The end of the string must be marked by ^Z as with [Q].
- [Tnum] Tabs. Changes tab characters into the number of spaces specified in number as it copies.
- [U] Upper case. Changes all alphabetic characters into capitals as it copies.
- [V] Verify. Checks that file has been transferred correctly by comparing the source and destination files.
- [W] Write over. Writes over files set to Read Only at destination without asking. Normally if you use PIP to write over a R/O file without [W] it will ask if you really want to do it.
- [Z] Zero the parity bit. Sets the eighth bit in each character to zero in a character file effectively stripping out dot commands etc.

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I can't say in all honesty that my PCW has revolutionised my life, or even traumatised it – just taken over completely. At present, if it can't be done on the computer, it doesn't get done. I have tried typing `IRON [RETURN]`, but the shirts stay creased in the basket; neither has it any effect on the washing machine, dishwasher or microwave (more the reverse in the latter case, I suspect) but the family are surviving. As you may have gathered, I am a more-than-middle-aged Mum having a passionate affair with a PCW!

In my O-level days we didn't have calculators, let alone computers, so although my algebra was fairly good, I didn't know a byte from a poke. My introduction was via a ZX81 and using the excellent manual I had in no time programmed it to draw a dog that wagged its tail when a bone appeared – then it ran out of memory. One whole k it had. I did serious things on it, including printing out all sorts of sine waves when my son had to design jewellery based on them for his A-level work. From that I progressed to a Spectrum but found the promised software was sparse so I lost interest



and didn't progress very far with my programming. I did manage to put my accounts into it (I do casual work at home) and bought a Brother EP44 typewriter which, through an interface, produced good quality print.

Last year, I started investigating my Family History. It is a fascinating subject but you collect masses of names, dates and places. These take hours to copy out neatly and sort into some kind of order from which families can be extracted. I knew a computer was the answer and just as I was thinking of dusting down the Spectrum, I was offered a few days work. The 'few days' became three months and I had enough money for a 'real' computer. After a lot of looking, absolutely no help from anybody, and with a deep sense of foreboding I went to buy an Amstrad CPC6128. They didn't have one in stock (I now look upon this as an omen!) and as I suffer from the 'I want it now' syndrome, I bought my second choice – the 8512, and what an excellent choice it proved.

Dear LocoScript...

I have always brought up my children to believe that if you can read, you can do anything, but the LocoScript manual soon put paid to that theory. It was very good at telling you what to do but not at how to get back where you were before you did it. I mastered it eventually only to go through the process again when LocoScript 2 appeared. However, the effort was worth it as a number of my petty annoyances have disappeared from the new version. I would still like to see an 'Exchange lower-case for upper-case' (and vice-versa) for those occasions when I have typed a whole paragraph having forgotten to turn the shift-lock off (or on) and be able to use the word-processing codes in 'Find and

FAMILY LIFE

Spurred on by typewriters and family history, housewife-superstar Jeanne Bunting has breached the computer age's technology barrier

Exchange'. I would also like an indexing facility.

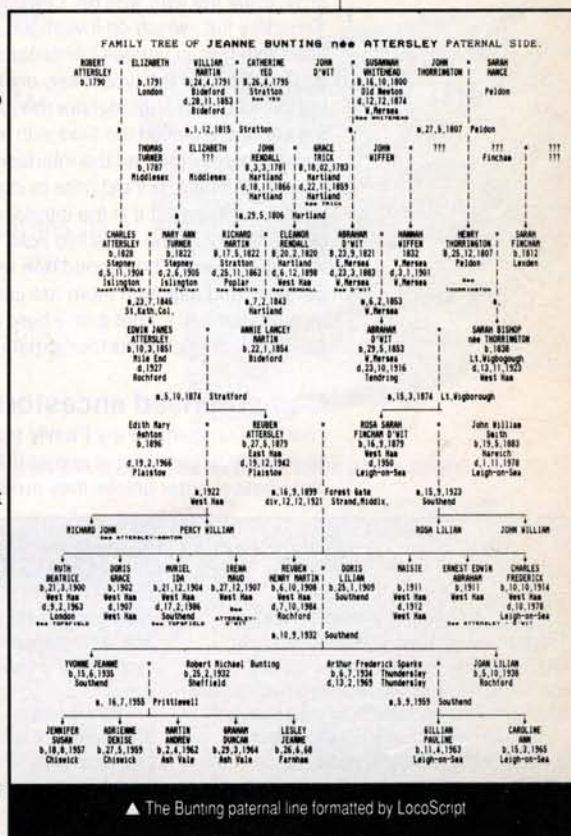
I get very easily side-tracked. I have these brilliant, time-saving ideas which always take longer to implement than the job would have taken to start with (I once spent ten minutes trying to get an egg into a milk bottle so I could shake it up with the milk to save washing up a whisk and basin). I have just 'Finished editing' and spent an hour typing in the 'Wordcount' program from Issue One of 8000 Plus, correcting the errors, getting it to run, making an ASCII file to find I have typed six hundred and forty-three words which I could have counted in two minutes..

The latest idea was to buy the RS232 interface to download the contents of the EP44 typewriter memory into the PCW, then I could take the typewriter to the Record Office and save the laborious hand-writing in between. I bought the interface from a local supplier who, in common with most suppliers of hardware and software, didn't know much about his products, least of all the correct cable to use, so I bought the parts elsewhere and using the wiring instructions in the interface instruction book, made my own up (at a quarter of the price of a ready-made) and at last I was ready to go.

Interface about face

I carefully read the not too explicit instructions on using MAIL232, told it to receive EP44.TXT and – hey presto – nothing. Not so much as a squiggle. I went through each option changing one thing at a time without success and as it was four o'clock in the afternoon and everyone was screaming for lunch, I temporarily gave up. Having re-read the book, I changed the Baud rate and to my great joy my text suddenly appeared – complete and unadulterated. Admittedly each line overprinted the previous one, but changing the relevant option on the typewriter from 'CR' to 'CR+LF' solved that, so I was ready for real records.

I was investigating the Merchant Service



Try before you buy

As an early subscriber to 8000 Plus I was sent a free disc with, among other goodies, a demonstration version of NewStar's 'Cracker 2' spreadsheet. I managed to take screen dumps of all the 'Help' menus except the 'Coordinate Reference Adjustment' and 'Label' which, when I dumped the file with CP/M's DUMP utility had a glitch in it anyway. I eventually set up a Cracker file, put some information in and sorted it. This may not sound much of an achievement, but considering my advanced years and lack of experience it did to me. I also managed to get some of my EP44 output into it, before running out of memory, but having tried it and seen its possibilities, I bought the full version and use it for my accounts and invoices.

I recently saw a demonstration of 'Database Manager (At Last)', was able to play with it and found it much more suitable for

Family History – dates from any century, full alphabetical sort over three fields, many ways of printing the information (only two in Datagem), fields within fields and 'constant' fields. Only calculations were missing. I discovered I could take data from Locoscript via an ASCII file into 'At Last' which meant that not only could I put my EP44 information into it, but could also process my Datagem files and put them in. I decided to cut my losses and buy 'At Last'. Its biggest drawback as far as I was concerned was that it printed in pitch 10. However, I soon managed to use CP/M's SETLST command to make it print in pitch 17 and although there are a few minor irritations, I much prefer it to Datagem.

Distributors – take note! Both 'Cracker' and 'At Last' I bought because I tried them first – no amount of advertising would have sold them to me!

Records from the 1850s of my great-great-grandfather. I found records of his voyages, the crews and who owned shares in his schooner. I was delighted to be able to come home with half a day's records (only 4K of memory in the typewriter) and empty it straight into a text file which could be inserted into Locoscript documents and tidied up.

My second attempt, four pages of Births, Marriages and Deaths, was not so successful. Having by now made an auto-start MAIL232 disc, I confidently went through the routine, and was greeted by two peculiar graphics characters and nothing else. I tried again, and again, and again. Sometimes the printer did strange things, sometimes the whole system crashed, sometimes I even had to do the unthinkable and remove a disc from its drive while the light was on. Once it said 'Directory full', which on investigation was filled with files in various combinations of Zs

To eliminate the typewriter, my husband borrowed a similar model but the result was the same. I checked the lead with a meter and eventually phoned the interface supplier. He couldn't help, but did offer to change the interface saying, "If it is the interface, it will be the first of all the ones I've sold." Well, it was, and it was. The second one works perfectly and although there are certain incompatibilities – I get a '#' where I typed a '£' – I am conducting further experiments.

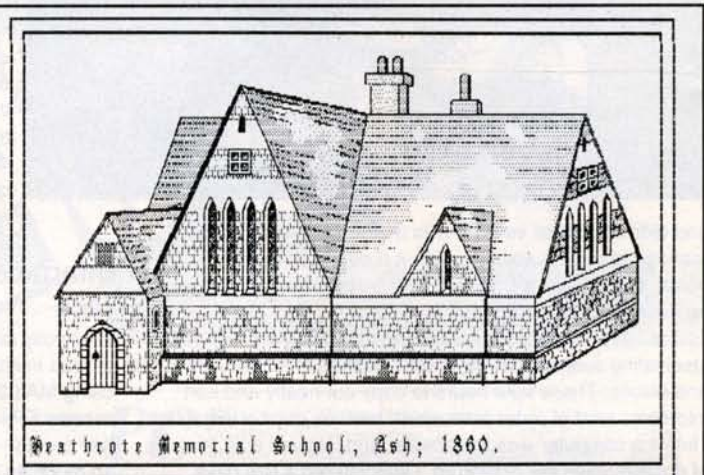
Computerised ancestors

I bought Datagem for my Family History data and apart from its inability to sort a list of surnames and christian names into alphabetical order unless they are in the same field with the

second name always starting in the same position within the field, and not accepting dates outside one century, it was adequate. It was extremely easy to set up. User-friendly wasn't the word – it was positively amorous compared to Locoscript. Within an hour or two I had fairly complicated files to take my various kinds of records and I even configured it to produce a chronological list of ancestors listing in order my four grand-parents, eight great-grandparents, sixteen great-great-grandparents etc, etc (not that I've got much further than that).

Considerable exchange of information goes on between Family Historians. With the combination of LocoScript (I have learned to live with its sloth) and Datagem I can extract relevant information to send to enquirers, together with an appropriate Family Tree (laboriously produced in LocoScript). Last Christmas, LocoScript wrote to all my cousins for information – one letter with subtle changes for each cousin, and other letters I normally write individually to friends were done by 'copying', 'cutting', 'pasting' and 'inserting'. I slipped up occasionally and left bits in which should have been left out, but nothing serious. I had already put my address book into Datagem and marked those to whom I send Christmas cards and simply printed labels for the envelopes which also served as a list for who to send them to.

Datagem wasn't perfect and had a couple of bugs which I wrote to Gemini about but had no reply. Digita International (who now market it as Datastore) offered to look into the problems provided I paid £20 to join their software support scheme. In view of Datagem's limitations, I decided the money would be better spent on a different database.



▲ The cover of the next West Surrey Family History Society magazine taking shape on The Desktop Publisher

I am now Editor of the West Surrey Family History Society's quarterly journal. I have also bought a 'mouse' and 'The Desktop Publisher' program, so the ironing has piled higher. Not being a typist, I like to receive the journal's contributions on disc wherever possible and have successfully loaded text-files from different word-processing programs into LocoScript.

Hey, I've just had an idea. (groans from the family.). There's this Uni 2 interface and 5 1/2" 40/80 switchable disc drive and with the software which claims to read 'most' 5 1/2" disc formats I could transfer text files from other computers... more experiments and even bigger piles of ironing.

Yesterday my son asked me if the PCW could do graphics "Yes," I said and in the middle of trying to lose 667 words from this article, found the Dr. Logo disc and instruction manual. We drew several squares, spent half an hour looking for the equation of a circle in our algebra books ... but that's another story.

EXIT

Are you a case?

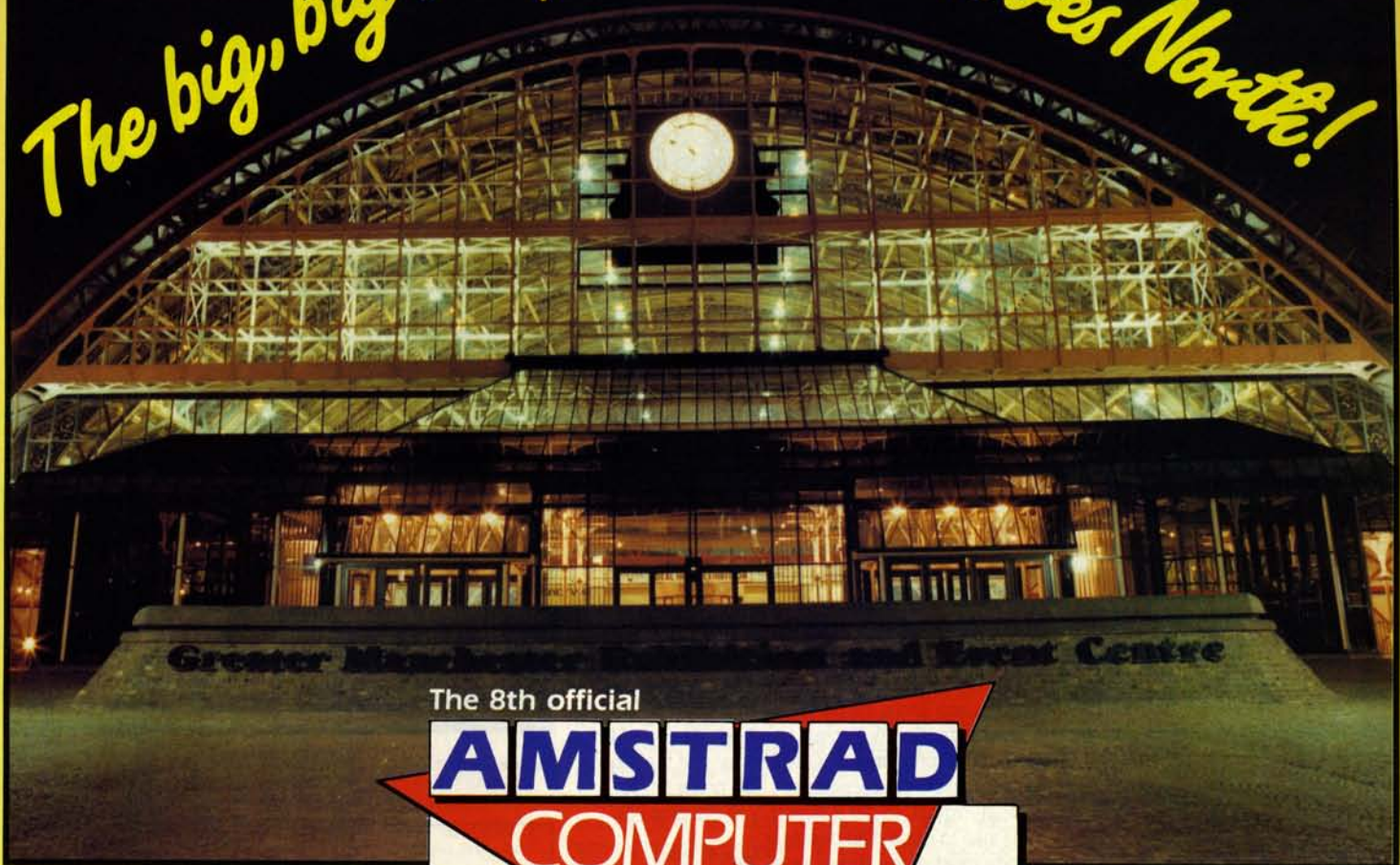
Has your PCW revolutionised your life? Traumatized it? 'Case in Point' is a regular feature of 8000 Plus, and we are looking for readers with interesting experiences to relate. If you use a PCW for something more than just running LocoScript, why not share your thoughts with the waiting world?

Try to keep things light but specific, with a fair smattering of hard facts about the

packages you use. If you've had a bad time with some software don't be afraid to sound off - you could be saving other readers weeks of agony.

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PROTEXT AND SURVIVE

Rob Ainsley begins a short series on the pros and cons of Arnor's Protex word processor with a LocoScript conversion course

In LocoScript most you are probably by now happily writing letters from a letterhead template resplendent with italics, bold and underlines with both hands tied behind your back, but to achieve the same simple objective in Protex may seem to those of us weaned on Loco unpleasantly like an adventure game. In fact there's nothing illogical or unreasonable about Protex; it's just very different from LocoScript. If you want to send off your pools jackpot claim in twenty minutes and not after you've read the manual in three weeks time, take our quick conversion course.

You'll need your Protex work disc, lots of paper, a packed lunch and a can of lager. Load Protex and put your data disc in. Protex has been designed to accommodate LocoScript converts, so as many of the keys as possible are similar – in LocoScript 1 you press [f1] to change discs; in Protex, to get a directory of the disc you can press [f1] also to get a disc directory.

In edit mode most of the cursor keys, [DEL], [EOL], [PARA] keys etc work just as in Loco, and [ALT] plus the up or down cursor moves by a screenful at a time. However, editing which messes up the paragraph won't be automatically reformatted – you have to manually reformat (from the cursor to the end of the paragraph) by entering [ALT]-F.

Protex doesn't have quite the same concept of Templates and Groups as LocoScript does, but there is a simple way to achieve the same effect. First create your letterhead template by going into edit and typing against the left hand margin

```
>sm 10
>pl 55
>cp off
```

These are 'stored commands' – the > tells Protex not to print the line but to obey the command after it, the above three respectively setting the side margin to 10, the page length to 55, continuous printing off (ie. single sheet).

For the next line enter [ALT]-Xe; the 'e' shows in reverse video and is a print command to make the letter come out in 12 pitch, or 'elite', type. Protex thinks 10pt is miles better

Loco note

To convert a document from LocoScript 1 to Protex, you'll have to make an ASCII file way back in LocoScript via [f7]=Modes in the main menu (take the 'simple text file' option) making sure to put it in group 0 of the disc. Run Protex, insert the disc and LOAD the document. You will have to reformat it with the FORMAT command but otherwise it'll now be a Protex document. In making an ASCII file though you lose all the fancy formats, italics, bolds and pitch commands.

Protex: Document: litemp.ltr IN Justify Off Word-Wrap ALT-F for Help
Page: 1 Line: 1 Col: 1 No markers set Insert

Don't
Tel. 0225 446034

Future Publishing
4 Queen St
Bath
BA1 1JQ
August 30th 1987

G K Simmons Esq
The Old Bus Shelter
Epsom
Surrey

Dear Mr Simmons

I enclose a synopsis of and extract from my latest novel *The Importance of Being Ron* which you may like to get published for me. My style has been favourably compared with John Fowles and my mother thinks the book is very good.

Please send me my advance by return of post. I have enclosed some notes 'About the Author'.

Drive is A:

▲ How your letter appears on screen...

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Yours faithfully
/s/ Arthur Scribbler
Arthur Scribbler

▲ ...and how it prints out

and prints everything in that if you don't put your foot down.

Then enter your telephone number and address as on a letterhead, using the [TAB] key to align your address – if you aren't happy with where the tabs are defined, you can alter them as explained in a minute. Back in command mode SAVE the file as TEMPLATE.STD or something equally boring. There's nothing special about the name; in Loco it would be used as a template for every new document, but as far as Protex is concerned it's just another file.

To use this template file in future you would just tell Protex to LOAD TEMPLATE.STD. Move the cursor down to where the body of the letter will start, type in the text and when finished go back to command mode and type SAVE LETTER.MUM or whatever you are going to call the finished file.

Take me to your ruler

The equivalent of Loco's layouts are 'ruler lines'. The line of hyphens and exclamation marks at the top is a ruler line,

Chalk and Cheese

LocoScript is a very good wordprocessor. It has enabled literally hundreds of thousands of people to produce neat, impressive, well laid-out letters and manuscripts without needing a City & Guilds in Information Technology. It's virtually foolproof; it constantly checks to ensure that all the document is well laid out and correctly formatted, for example – which tends to slow it down.

Protex is much, much faster but not as straightforward – it's rather like the difference between a point-and-shoot compact camera

and a motor driven SLR. Which you prefer is a matter of taste, both have their fanatical adherents. Protex comes with a spelling checker, an instant word counter, full mail merge facilities and a battery of features like a calculator, simultaneous two-file editing, two-column printing, etc. The whole package costs £79.95 but there's now a stripped-down version 'Pocket Protex', without the spell checker and mailmerger, for £39.95. Both from Arnor, tel. 0733 239011.

where L shows the left-hand margin, R the right, !s show the positions of the tabs. The hyphens are just padding characters to fill in the gaps.

If you want to put a new layout somewhere in a document, to inset a quotation in the middle of your letter for example, you just enter a ruler line like

$$\geq \quad L \text{-----} ! \text{-----} R$$

and all the text below this will be indented to the new left margin at L, stopping at R. You may have to do an [ALT]-F to reformat any existing text below that point if you want to. Pressing [ALT]-R will restore the old ruler line. A ruler line in the template will be the default for documents prepared under that template.

To get all those italics, bold and underlinings, you enter more print control codes. The equivalent of (+Italic) or (-Italic) in LocoScript is [ALT]-X_i in Protex; the first [ALT]-X_i turns italics on, then another one turns them off. It shows on the screen as a reversed video 'i', and takes up a space on screen but won't on the printout. Similarly [ALT]-X_b selects or deselects bold and [ALT]-X_u underlines.

To get a printout of the current file you are working on, give the command **PRINT [RETURN]** (or just **P** will do), say 'Y' to background printing, and out will come your letter. **P** always prints in draft mode, and **PQ** will print in high quality if you want that instead. You can stop printing by entering **STOP** (if you want to resume later, which is done by typing **CO**) or **AB** (to abandon printing completely, if you get a bad paper jam for instance).

Course in management

All LocoScript's disc management functions – copying, renaming, erasing etc – are done in Protext's command mode. To copy a file, enter the command `COPY [RETURN]` – you're asked for the old filename, ie. the name of the file to be copied, and the file to copy it into.

To make a backup of your letter on a disc in the B drive, for example, you would enter the old filename as `LETTER.MUM` and on hitting `[RETURN]` up comes the prompt 'New name or drive', so type `B` `[RETURN]` (on an 8256 you'll be prompted to put the disc for B into the drive). Typing a new name will make a copy of the file on the same disc under the specified name.

Renaming a file is done by `RENAME` or just `REN`, and again you're asked for old and new filenames. Erasing is done with `ERASE` or `ERA`. Whenever you save a document, Protext obligingly renames the previous version of it with the extension `.BAK` as a backup file. This corresponds to Loco's idea of 'Limbo' files, where if you edit a document the old version is saved as a Limbo file in case you need to go back to it.

Score with headers

Now, having finished a letter to your literary agent, you can get down to printing an extract from your new book to send with it. Suppose you have already typed the extract in and you want to print it out on continuous paper with headers, footers and page numbers.

First you want to set up a template as before, to be saved as say **TEMPLATE.MS**, consisting of the stored commands:

```
>ls 2
>cp on
>sm 10
>pn 1
>fo
Page %
e
>he
The Importance of Being Ron
```

The first four commands set the line spacing to two, continuous printing on, side margin to ten, and set the first page number to 1. The next one he sets the footer text



▲ The first page from that blockbusting manuscript

which puts the page number at the bottom of every page; trial and error will get the centring right. The % is a signal to Protext to 'print page number here', as per Loco's (+PageNo).

The header is defined after the embedded `e` for 12 pitch text, ie after the start of the first page, to ensure the header is printed out from page 2 onwards. If you want the header on page one as well you can put it before the start of the first page (before the embedded codes) but it will be printed out in 10 pitch as the codes haven't taken effect yet. You can turn off headers or footers at any point in the text by putting `>he on` or `>fo off` somewhere on the page before the one at which the change is to take effect.

May all merge

As the extract you're sending to your agent has probably already been written, it would be easier to somehow lay it on top of the template just defined rather than have to type in the whole thing again.

You can do this with a MERGE command. If your document RON.DOC has been prepared in Protext, all you have to do is LOAD RON.DOC and, without leaving command mode, MERGE TEMPLATE.MS. The template will be inserted at the position of the cursor, ie at the start of the document. Save the result as RON.MS (or RON.DOC if you don't need to keep the original). Reformat if necessary by entering FORMAT, load the continuous paper in the printer, and print out as above.

Now drink the lager.

Count your blessings

Merely by entering **COUNT** in command mode, the number of words in the working document will appear almost instantaneously. You can then use the built-in calculator to multiply by your rate per word to work out how much to charge for your article. Many people would gladly sell their house and all its contents for such a mindbogglingly useful facility.

Justifying decisions

'Justification' in Protext means having a smooth right margin on the page. Pressing [ALT]-J while editing will turn justification on or off - you'll see if it's currently selected by a status message on the information lines at the top of the edit screen. By default it's on; if you want to unjustify a justified document, or vice versa, select [ALT]-J to change justification state, and reformat the entire document from command mode by typing **FORMAT**.

Protext normally justifies its text by inserting whole space characters between words in the line, rather than LocoScript's nicer way of inserting a fraction of a space

between every word so giving an even spacing. If you put at the top of your template

```
>ms on
```

this turns 'microspacing' on and makes Protext do proper justification. Protext isn't very good at this and it takes a long time to print out a microspaced document on the standard PCW printer.

You can 'right justify' a line (ie. align it with the right margin but leave the left end ragged) by pressing [TAB] after the final tab stop you have defined on the current ruler line. This will take the cursor to the extreme right edge of the screen.

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The software developed for these PCW products has been used as the basis for the first range of products, which includes the first range of products for the PCW and also the first range of products for the first range.

The first range of products, which includes the first range of products for the PCW and also the first range of products for the first range, is now available for the first range of products.

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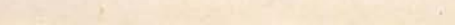
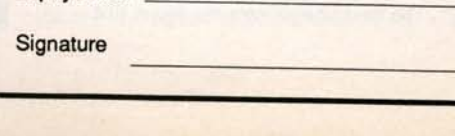
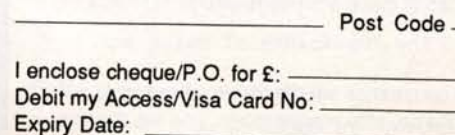
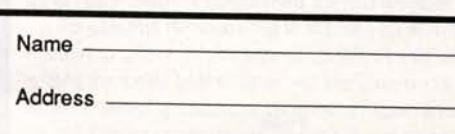
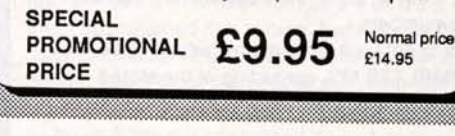
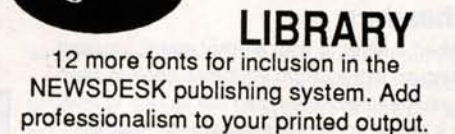
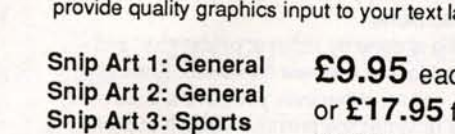
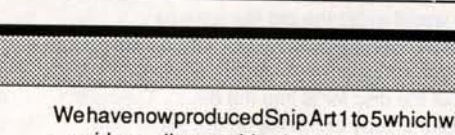
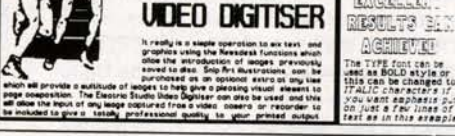
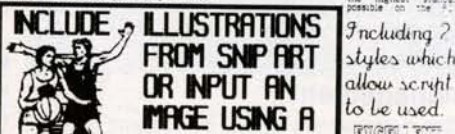
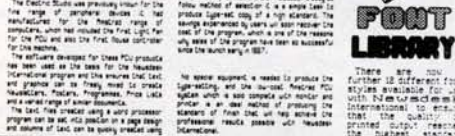
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Debit my Access/Visa Card No: _____

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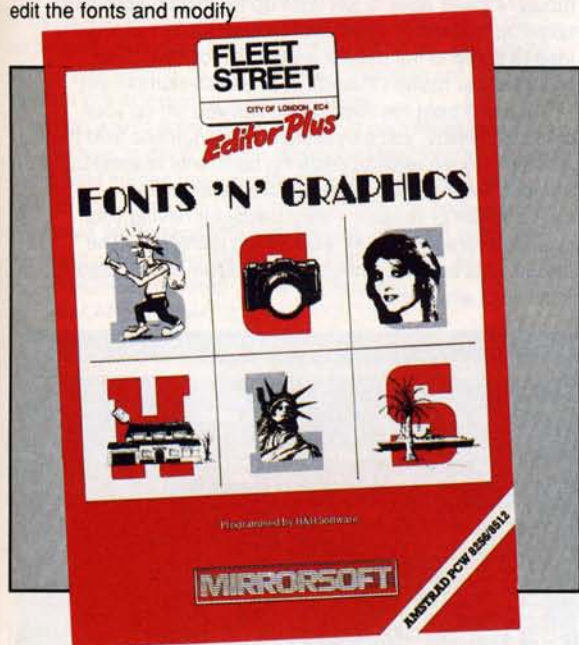
Signature _____

FONTS 'N' GRAPHICS

£19.95 • Mirrorsoft • 01-377 4645

This is an add-on for users of Fleet Street Editor Plus who feel that the quality and variety of their text is lacking something. Users of FSE Plus will not need telling that the design of individual letters of the alphabet is called the 'font', and FSE comes with five different fonts to start with.

The Font Editor provides you with with five extra fonts and eighteen pages of graphics. Perhaps the most interesting feature is the facility to edit the fonts and modify



the shapes to your taste, or even design your own completely individual typeface. Most of the package though is simply a bunch of accessories to the desk top publisher – even the supplied instruction manual is a set of loose punched pages to be inserted into your Fleet Street Editor manual.

The new fonts (Bold, Compact, Data, Freehand and Skeleton) have to be copied onto your original FSE program disc in place of other fonts if you wish to use them. As with any DTP font, the headlines can be very jagged at large sizes and the fancier typefaces can look crude at small sizes, due to the restrictions of the 16-dot format.

Heading for success?

As for the extra graphics, most of the new selection look quite useful. They don't often print out on paper as well as they look in the manual though, and you may well be disappointed by the quality of the transfer to your publication. The collection of headings (Stop Press, Latest, Books, Notice etc) would be useful in any newsletter, and a few of the snip-art pictures such as the camera, wedding bells, postbox and fancy borders would also find suitable uses. Some of the more detailed pictures, such as a cartoon burglar or the upper half of a female model in a swimsuit, have a more dubious relevance.

The program can, however, be run per se, as a device to edit the shape of the letters in any of your FSE fonts, even to the extent of creating your own typeface. The main reason you'd want to alter the shapes of the letters might be for the headlines, which, being straight blow-ups of the basic letter pattern, look very awkward and jagged – you could devise a smoothed-off version of one of the typefaces specially for this use.

On starting up the program you are faced with a blank screen and the options of loading, saving, or editing a font. After loading the required font and selecting 'edit' a grid with

CHARACTER STUDY

Have you bought Mirrorsoft's Fleet Street Editor desktop publishing program? Now their Font Editor could revolutionise the look of your text.

all the characters in that font show up. You can move the cursor over the letter you want to modify and paste it into a 16x16 grid at the top left of the screen; once here you can adjust the make-up of the letter pixel by pixel, totally redrawing it to save as a new font if you like. You can edit in three sizes, 18pt printer, 12pt printer, and 12pt screen, so those pedants among us who insist that the font designers have got the serifs all wrong have their chance to put it all right. You can also screen dump a test piece of text to gauge your new set.

▼ 8000 PLUS in Japanese? Fonts you design don't have to be English

ハチプラス



Jackdaws love my big sphinx of quartz
Jackdaws love my big sphinx of quartz
Jackdaws love my big sphinx of quartz

CITY NEWS



Unsweet sixteen

Designing your own characters is fun but trickier than you'd think. The main problem is that sixteen dots simply doesn't give you much scope for designing anything at all, never mind a font which mimics the graceful curves of your own handwriting.

To be honest you're not getting a lot even for twenty quid. The graphics are nice but hardly indispensable, the extra fonts are unlikely to change your life and only the most dedicated hobbyists would be prepared to spend hours deservicing the freehand font or constructing a set of runes to curse magazine subscriptions departments with. But, if you've had the patience to get Fleet Street Editor up and working, and your desk top publications are pushing the graphics and fonts library to their limits, you may well think that this little addition to your system is worthwhile.

EXIT

▲ A selection of the new fonts and clip art

The alternatives

If you're still thinking about buying a desktop publisher, then the other ones on the market already have font editors built in. There's The Desk Top Publisher from Database (£29.95 and amazing value) and Newsdesk International from the Electric Studio (£49.95). The Desktop Publisher also works on a sixteen dot grid, but on Newsdesk you can design letters over a 32x30 matrix, giving much better headline (or rune) quality.

PLUSES

- Font editing procedure is quick and easy
- A useful addition to Fleet Street Editor Plus

MINUSES

- Other DTP programs give you Font Editors for free
- Maximum of 5 fonts in FSE+ means new fonts replace, not add to, old ones
- Not much new snip art for your money

RANGE OF FEATURES ■■■■■
 EASE OF USE ■■■■■

PERFORMANCE ■■■■■
 DOCUMENTATION ■■■■■

8000 PLUS VALUE VERDICT ■■■■■

CONTINUING DATASTORE

Digita's DataStore has always been a competent, moderately priced database. Rob Ainsley discovers some pleasant surprises in the new version.

Jargon buster

All these records, keys and fields will be old hat and stale buns to readers of last issue's grand database survey, but for the uninitiated a database stores lots of items of information as a file, say a file of all your cricket team members. The set of details on each member is called a record, and individual items in each record such as name, batting average, highest score etc, are called fields

Jargon buster 2

Jetsam is the database handling system supplied as part of BASIC on your CP/M disc. It's a set of commands incredibly handy for searching out, indexing and manipulating records, and we still don't know why it is called Jetsam.

DATASTORE II

£39.95 ● Digita International ● 03954 5059

Databases are wonderful things. They take all the slog (well, almost all) out of the tedious business of filing, updating and organising information. However, the printed output from your basic card index type of program is often rather unattractive; DataStore II, on the other hand, claims it can be used for applications which need good quality results – school reports, personnel details, invoices etc, and may tempt a lot of buyers with its reasonable price and 'professional database' tag.

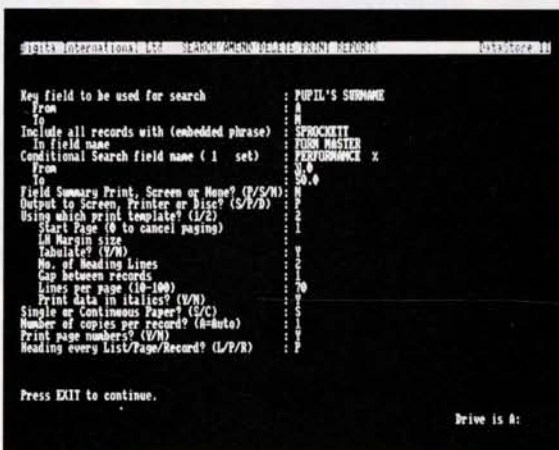
Setting up Store

On starting up DataStore the program files are copied into the M drive; your data disc can then sit in the A drive eliminating tedious disc swapping on an 8256. The opening menu offers ten choices, zero being the 'design database layout' option. A series of questions asks you for the familiar details of your database: number of fields, length of each one, names of your key fields, length of keys, etc. You're

allowed up to thirty-two fields, eight of them can be used as key fields, and there are four types of field – character, date, numeric and money. Numeric fields will be printed out with decimal points aligned under 'tabulation mode' and money amounts are printed with commas in the right places, though they can't be used in calculations. A nice feature is that single-letter entries can be made to recognise only certain letters, so that a field 'Sex', for example, could be made to accept only 'M' or 'F' as inputs.

You are also asked to set a limit on the number of records you are going to use. The maximum is 32000, though it takes ages to set itself up for that number and takes up masses of space on the disc, so it's not a great idea to agree to the default suggestion of 32000 just because you haven't thought of any likely number yet.

Option 5 from the main menu lets you set up your calculated fields; you can assign to any numeric field the result of any expression involving constants or previous numeric fields combined by addition, subtraction, multiplication or division – very handy for having your bowling averages or VAT worked out painlessly. The calculations are automatically updated whenever data is entered or amended.



▲ The printer choices menu, replacing DataStore I's question-and-answer session

The prints and the paper

Back in the main menu you select 1 and start entering your new records. Before you can display any of the data you've entered on screen or printer though you have to define a printer template through option 3. These are the layouts your data will be output in, and you're only allowed to have two, so you may use one including all fields for detailed reports and another with just the name and address for printing labels.

On offer in the setup sequence is the option to print all data in italics, the headings being in plain text. This seems to work very well and gives a nice feel to the result. High quality print has to be selected in the printer control state by pressing [PTR].

You can put as many items on one line as you like, and repeat the same items as many times as you like. If one or more of your lines is longer than 80 characters long, the program obligingly switches the whole layout over to elite print to fit everything in, and further to condensed if it's longer than 96.

Sorting it out

Option 2 lets you search, delete, amend or print. DataStore I bogged you down here, forcing you to answer long series of questions about conditions on searches and embedded phrases to look for; version II thankfully just puts the whole list of options on one screen and you can move around with the cursor keys (albeit slowly) and define conditions only

Spot the difference

DataStore I has been around for while now. It's a good standard cardbox with calculated fields, the ability to assign phrases to the function keys, and wider scope than most packages for making printed output smart and neatly layed out. However, there were a few niggles with the first version. First, it wasn't the fastest or slickest database in the world. Second, there was no way to output data in ASCII form to an external file, which meant you couldn't use your data in mailmergers or wordprocessors, or transfer it to other databases or systems. And, if you were to upgrade your database software or machine later on, you could flush your data discs down the lavatory for all the use they'd be.

The other big minus was a sequence of often irrelevant questions to wade through every time you wanted to search the file or print something out, so long that you often forgot why you had started doing it in the first place. Browsing through the file was not

exactly speedy either; and you could only have two layouts for printout.

However, Digita, ever anxious to please, have revamped the program and DataStore II goes some way to answering the criticisms of its predecessor. The setup for searches has been greatly simplified and speeded up, you can now export your precious data to ASCII files for use by a mailmerger, and there's even a separate program to re-index corrupt files or restore 'deleted' records. There is still no import facility to read data in from an ASCII file. It would have been nice to have the option of more than two printer format templates per database provided though, as printed layout is one of the strong areas of the program.

Owners of version I can get an upgrade free if they've had version I less than 60 days, or if they've paid £20 for a year's support. Digita say they're rewriting the manual, and the new version will even come with a wallchart too.

when required, making things much quicker.

The list includes the usual array of selection and indexing criteria: you can index on any keyed field from any given record to any other given record (index by name from A to K for example), search for an embedded phrase (all addresses including 'London' for instance) and set a condition on the selection (all accounts in credit or all dates since January 1st 1980 etc) all at the same time if required.

Conditional discharge

You can place selection conditions like this on as many fields as you like, enabling quite complex searches to be carried out. However, there doesn't seem to be any way of negative searching (ie selecting all addresses not including 'London') or of indexing in reverse order.

When you're entering the names of your fields, you only have to type in the first letter or two and the program will dig out all field names beginning with those letters and offer them to you on screen. You can then pick the correct one - this saves the frustration caused when you can't remember the exact name of the field (was it TEL, TELNO, or TELEPHONE?) or when you keep mistyping MISCELLANEOUS ACCOMMODATION.

You can also ask for a summary after your listing is complete which shows the total and average for every numeric field (but a rather inelegant 0 for other fields).

Indexing is fast thanks to the underlying efficient Jetsam commands of Mallard BASIC, but searching for embedded phrases isn't so fast, and flipping through records is very slow. Hence it's fine for look-up but not so convenient for browsing. Get your data printed out, though, and you'll be pleased with the results, thanks to the control over layout you have in the printer template setup.

Prominent features

There are a number of other features worth mentioning. You can assign phrases to the function keys, for example making [f1] print out the date, [f3] the name of your company or club or whatever. A good little time and temper saver if you have to write hundreds of school reports saying "Can do better" and "Must try harder".

The program can work with two files in the memory at the same time. Handy for looking up something in one file while you're working on the other, but it takes a while and doing it for lots of records would get tedious.

Another very useful facility is the 'merge' option which lets you put data from one file into another. The thing about this is that if you want to redefine the structure of a database - say you realise that you have to add a new field after typing in six thousand entries under the old structure - you won't have to just define a completely new database and type in all your data again from scratch as with most programs. You just set up the new structure and merge in all the old data at a stroke.

Manual labour

At the time of writing the updated manual for DataStore II was not available. However, the first edition was helpful and generally clear, and since the new version of the program works in basically the same way it shouldn't necessitate too much rewriting.

The package generally is quite user-friendly, easy to use and seems pretty robust; and, like LocoScript 1, the sloth in the program won't be so irritating most first-time users, who haven't seen six thousand other packages to compare it with. There's still the occasional annoying quirk though; it's all too easy to get caught by mistake in a series of questions you can't leave until you've answered them all, however hard you press the [EXIT] key. There are also some idiosyncratic ways of doing things, for example, to exit to CP/M, you press the 'up' cursor on the 'Enter File Name'

command; the down cursor shows the directory!

DataStore II is a marked improvement on I. It's still not for people in a hurry to flip through records, and its tag of the 'professional database' is still a bit grandiose, but it's nevertheless a good program. In fact, it's very good for uses where the emphasis is on printed output and not speed of operation, such as school reports, personnel records, membership details, archives and so on. And the calculation facility could be just the thing for your cricket club's end-of-season averages. **[EXIT]**

Digitals International Ltd SEARCH/AMEND/DELETE/PRINT/REPORTS DataStore II

PUPIL'S SURNAME Ainsley OTHER NAMES Robert SEX M FORM SC
DATE OF BIRTH 3/ 9/60 AGE 15

ENGLISH L.	MARK	64	COMMENT	1	Good but dos'nt pay enuogh atention
ENG LIT	MARK	56	COMMENT	2	Still ca'nt do joind-up writing
FRENCH	MARK	98	COMMENT	3	Says he gets "lessons from a friend"
MATHS	MARK	15	COMMENT	4	Poor. Have put him down for Oxford.
WOODWORK	MARK	35	COMMENT	5	He should regain 90% use of his fingers
PHYSICS	MARK	18	COMMENT	6	Splendid. Top of the class.
CHEMISTRY	MARK	33	COMMENT	7	Shows marked interest in fermentation
COMPUTING	MARK	12	COMMENT	8	No interest in Logo, language of the future
UNAPPLIED	MARK	0	COMMENT	9	

FORM MASTER Mr Sprockett
COMMENTS When I was his age I had six of the best every day. Made me what I am today.

HEAD'S COMMENTS My wife is very fond of him. Legal proceedings are in hand

AVERAGE MARK % 41.4 ROLL NUMBER 531 NUMBER IN CLASS 25
PERFORMANCE % 99.0 POSITION IN CLASS 25

Use arrows, A to amend, D to delete or EXIT

Drive is A:

▲ A sample record on the screen

Page 1

SCHOOL REPORT

PUPIL'S SURNAME Ainsley OTHER NAMES Robert SEX M FORM SC
DATE OF BIRTH 3/ 9/60 AGE 15

ENGLISH L.	MARK	64	Good but dos'nt pay enuogh atention
ENG LIT	MARK	56	Still ca'nt do joind-up writing
FRENCH	MARK	98	Says he gets "lessons from a friend"
MATHS	MARK	15	Poor. Have put him down for Oxford.
WOODWORK	MARK	35	He should regain 90% use of his fingers
PHYSICS	MARK	18	Splendid. Top of the class.
CHEMISTRY	MARK	33	Shows marked interest in fermentation
COMPUTING	MARK	12	No interest in Logo, language of the future

FORM MASTER Mr Sprockett
COMMENTS When I was his age I had six of the best every day. Made me what I am today.

HEAD'S COMMENTS My wife is very fond of him. Legal proceedings are in hand

AVERAGE MARK % 41.4 PERFORMANCE % 99.0 ROLL NUMBER 531
NUMBER IN CLASS 25 POSITION IN CLASS 25

▲ The same record printed out, showing the flexibility of field positioning and mixture of italic and plain text.

PLUSES

- Flexible range of print format commands
- Simple to use
- Calculation facilities
- Plenty of nice touches - defining the function keys, using condensed text on long lines

MINUSES

- Can only have two different print formats per database
- Slow at browsing through
- You must set maximum no. of records before you start

RANGE OF FEATURES ■■■■■
EASE OF USE ■■■■■

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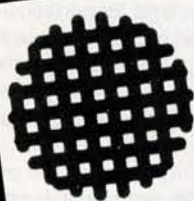
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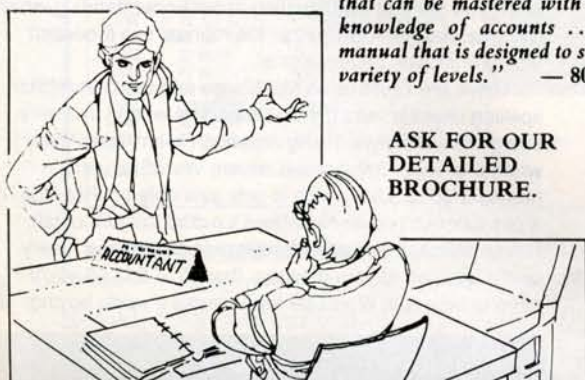
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GOLDEN OLDIES

dBase II and WordStar are venerable programs but still among the best. If you are among their many users, these two new books are just for you.

UNDERSTANDING dBASE II

Alan Simpson ● Sybex ● £22.95

dBase II is an extremely powerful database programming language. The manual isn't actually bad, but if you've only worked with a few other databases in the last three months, and your degree in computing is only an average one, then you could well find it a bit daunting; it's a bit like trying to learn Spanish conversation purely from a grammar book and tapes. This book aims to take beginners from scratch and guide them through to writing programs. It accomplishes that nicely – if the manual is a grammar book, then this is more of a conversational guide.

The book is, like the program, American through and through, though this shouldn't necessarily put you off. It talks about zips and states in addresses, and the style of presentation is much like an American college text. The tone

is laid-back (but definitely straightfaced) and there are clearly defined 'units' with short introductions outlining what you'll be learning to do – Sorting the Database, Managing Multiple Files, and so on.

The layout is clean and clear; in particular, all text that appears on, or would be entered on the screen, appears in a different colour to the main text, which tidies things up nicely. The worked examples described are the standard names-and-addresses, labelling, mailshots, stock control and so on, all with a clear approach and a running commentary on what is happening and why.

The programming section is the most important in the book – after all, dBase is dBase; if it wasn't, er... it wouldn't be the package that it is. Many of those who have bought dBase for its awesome power in handling data may be quite unfamiliar with what a program is and what it does, never mind how to write one. There's a good introduction to the concept of writing programs on dBase and a detailed description of writing a mailing list system. For the inevitable occasions where your program refuses to work there's also a section on debugging.

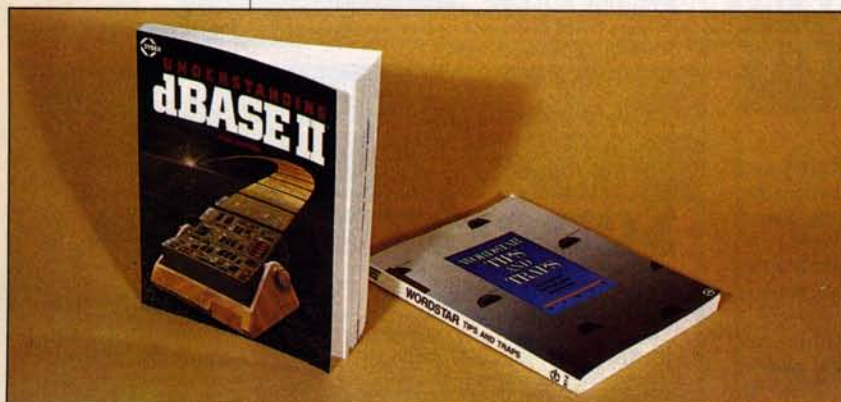
Particularly useful for those with spreadsheets will be the unit on transferring data to other systems (SuperCalc 2 is used as an example) and there's even a section on writing routines to make up bar charts and simple graphical displays from your data.

This is a comprehensive book which will expand the capabilities of any dBase user, and will be particularly welcome by those unfamiliar with programming. The only real minus point is the price – £22.95 ain't cheap, but then if you've paid a hundred for the package and are only running it on three cylinders at the moment, it could well prove a good investment.

Understanding dBase II

ISBN 0-89588-147-0

8000 PLUS VALUE VERDICT ■■■■■



WORDSTAR TIPS AND TRAPS

Dick Andersen et al ● Sybex ● £17.95

WordStar is the Morris 1000 of wordprocessors – reliable, basic, and solid. Until the advent of Protext, WordStar (or more accurately its 'clone', NewWord) was the alternative PCW word processor to LocoScript.

For those of us weaned on LocoScript and its nice easy menus, the apparently random commands of WordStar ([ALT]-P-S to underline, [ALT]-Q-C to go to the end of a file etc) and its essentially different way of operating mean you may find a lot of familiar things in LocoScript unfathomable in WordStar. How, for example, do you make headers and footers? How do you delete or copy a block? Though this doesn't purport to be an instruction manual, anyone who knows the rudiments of creating, editing and saving a document in WordStar could use it as such.

The format of the book is a series of statements labelled either TIP or TRAP and a brief paragraph or two of explanation. These follow on from each other quite continuously to make a series of chapters on Editing,

Formatting, Printing and so on. For example, in the Editing section, a tip on how to insert part of one document into another is followed by a cautionary note: the trap of losing all the text in a file if you try to copy a block directly in to it without making the block a separate file on its own first.

This tip-trap system, rather like a huge collection of WordStar TipOffs, seems to work very well and is one that could work very nicely with other packages, Protext for example. It's great for getting a feel of the potential of the software, of what it can and can't do, and of where its strengths lie. Each tip and trap is more or less self-contained, so the book is very handy for looking things up when you get that awful feeling of not understanding what's going on despite having read the manual five thousand times (or maybe because of it).

There are sections on MailMerge and the CorrectStar spelling checker, and the whole book is written in a very straightforward style. Being American it isn't specifically written for PCW owners and covers WordStar version numbers up to 3.31, which is only available on IBM PCs. It's a pity it doesn't cover NewWord's extras in more detail. Nevertheless, if you use WordStar it would make a very useful addition to your desktop, though at £17.95 you'll have to be a real WordStar fan to make it worth buying.

WordStar Tips and Traps

ISBN 0-89588-261-2

8000 PLUS VALUE VERDICT ■■■■■

American pie

Sybex are an American publisher, but the two books are distributed in the U. K. by Longman. You should be able to order them in any bookshop, or phone Longman on 0279 26721.

MASTERFILE 8000

FOR ALL AMSTRAD PCW COMPUTERS

MASTERFILE 8000, the subject of so many enquiries, is now available.

MASTERFILE 8000 is a totally new database product. While drawing on the best features of the CPC versions, it has been designed specifically for the PCW range. The resulting combination of control and power is a delight to use.

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Any file can make RELATIONAL references to up to EIGHT read-only keyed files, the linkage being effected purely by the use of matching file and data names.

You can import/merge ASCII files (e.g. from MASTERFILE III), or export any data (e.g. to a word-processor), and merge files. For keyed files this is a true merge, not just an append operation. By virtue of export and re-import you can make a copy of a file in another key sequence. New data fields can be added at any time.

File searches combine flexibility with speed. (MASTERFILE 8000 usually waits for you, not the other way around.) You can even assign subsets of a file into one or more of seven pigeon-holes for subsequent reference or further manipulation.

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Telephone : 0245 654321				
Reference : MGL				
Date of last order : 14 Aug 86				
Value to date : £31,455.00				

Ref	Maker	Model	Specification	Price ex VAT
C5001	Epson	FX100	100cps AMGLA 80col	£310
C5002	Epson	FX100	100cps AMGLA 132col	£410
C5003	Epson	FX100	100cps 132col	£195
C5004	Epson	FX100	100cps 132col	£435
C5005	Epson	FX100	100cps AMGLA 80col	£575
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C5008	Epson	FX100	100cps AMGLA 132col	£225
C5009	Epson	FX100	100cps AMGLA 80col	£370
C5010	Canon	5510	100cps AMGLA 80col Colour	£240
C5011	Canon	5510	100cps AMGLA 132col	£410
C5012	Canon	5510	100cps AMGLA 80col	£350
C5013	Canon	5510	100cps AMGLA 132col	£410
C5014	Canon	5510	100cps AMGLA 80col	£350
C5015	Canon	5510	100cps AMGLA 132col	£410
C5016	Canon	5510	100cps AMGLA 80col	£350
C5017	Canon	5510	100cps AMGLA 132col	£410
C5018	Canon	5510	100cps AMGLA 80col	£350
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British United Freight 493 Western Avenue Gloucester GL9 5JN		Tel: 0452 654321 Contact: Mike M Ref: BUF	03: Display Options Steer page Alter data Erase data Assign to set First page Next page Find key Go to record number Print Print single record Erase record Insert new record Show re-sequenced Estate format Go to search Exit to main menu	
Invoice	Tax point	Amount	Date paid	Cash
12004	20 Aug 87	£235.00	02 Oct 87	
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12839	04 Dec 87	£883.55	04 Dec 87	Cash with order
Totals:		£3,253.90		
Date of invoice				
Drive: A File: INVOICES Records: 00017 Selected: 00003 Key: Format: 1				

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GREENSCREEN GRIDIRON

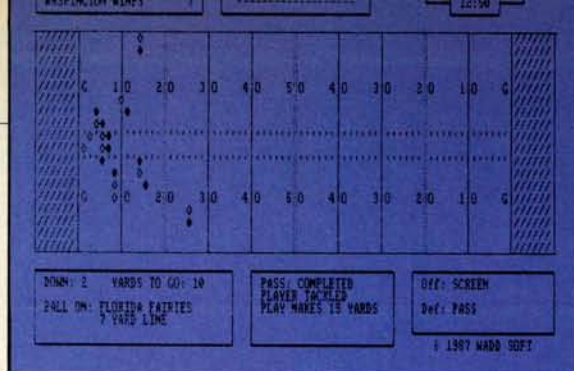
Whether your sporting interests lie on this side of the Atlantic or the other, there could be something for you in the month's new games.

Linebacker

£14.95 ● WaddSoft ● PO Box 37, Lytham St Annes, Lancs FY8 3AY

Are you the sort of person that stays up all night watching the Superbowl? Then there is a chance that you will enjoy *Linebacker*, a game that lets you try out your skills as an American Football coach. On the other hand if you aren't already a fan, the game may not have the sparkling graphics, speed of movement or intellectual challenge to keep you occupied.

The idea is that you have a choice of calls – the instructions given to your team as to what they should do. For instance you can tell them to either throw or run with the ball in one of twelve plays, choose one of five defences (or



▲ A ton of hunky American muscle prepares to grind your defence into a pulp

defences as the Americans insist on spelling it) or pick one of three kicking plays.

You can choose to play against the computer or against another player (no peeking when your opponent picks his offence now). It even suggests four players can play one taking the defence and one the offence of each side, but this doesn't sound completely riveting.

Then you sit back and watch two teams of diamond shapes (green and black for easy recognition) darting about the screen in a manner which at first is about as comprehensible as the politics of the Iran-Iraq war. Anyone who has just watched their first game of real American Football will know the feeling. After a while it does become a little plainer what is going on but it is easier to wait for the little screen message saying your star runner has fumbled or your quarter-back's pass has been intercepted.

Pick your play – take your chance

The essence of the game is to outguess the opposition – opting to run when they are set a pass defence, for instance. There is of course the element of chance built in, just as there must be in the actual game when even if you have called the right play the players mess things up.

This is perhaps where things fall down. The random chance element is so strong that it is not exactly obvious what advantage there is in getting the calls right. Without some obvious benefit from guessing correctly you come to feel more a spectator than a participant. It would also not seem to be a sound tactics training tool as it positively encourages you to take risks on fourth downs for instance.

True to American Football style, you can indulge any obsession with statistics and print out the final details of number of plays, yards gained running and passing etc, etc. Overall, an interesting buy for Gridiron groupies.

PLUSES

- Packed with authentic American Football detail
- Makes you think about proper American Football tactics.
- A brave attempt to portray in an understandable manner a difficult game.

MINUSES

- Whatever tactics you try, the element of chance means you don't have enough control over the outcome.
- The computer has a better quarter-back than you have.

GRAPHICS

ADDICTIVENESS



LASTING APPEAL

VALUE VERDICT



A Day at the Races

£14.95 ● Cavalier Software
● 0322 72116

It is probably true to say that people will gamble on anything, but whether you are really keen to gamble on Cavalier Software's *A Day at the Races* must depend on how much of a compulsion gambling is to you.

The blurb grandly proclaims that the program brings you "the smell of the turf, the drama of the Steward's Enquiry and the excitement of sleek thoroughbreds thundering through the final furlong..." Whether the PCW bleeper bravely warbling a fanfare and the primitive graphics that better represent beetles

racing across ice than sleek thoroughbreds justifies these claims is open to question.

Still, it does provide the basic ingredient – a race with nine horses and an indeterminate winner. It sets the odds, provides you with the money and speedily works out your winnings (or losses). Unfortunately the PCW printer hasn't been set up to actually print out your winnings in folding currency.

You have all the gates jamming, riders falling and Stewards Enquiries to heighten the fever pitch of excitement and when you have won your fortune you have the chance to invest in everything from a Golf GTI to a £350,000 mansion. Or (as is more likely) when you reach your credit limit you can sell your TSB shares, borrow from a money lender or sell your shirt for £10.

It does thoughtfully tell you how the 'going' is for each race although there seems to be nothing more than random chance behind the winner in any event. Extensive testing shows that consistent betting on the favourite and the rankest outsider loses money at the same rate – in this it would seem to be completely authentic.

This is really the kind of game you see as a type-it-yourself listing in BASIC text books, and not what you expect for fifteen quid.

PLUSES

- No skill required.
- Could be fun at a party when drunk.

MINUSES

- No skill required.
- Still no fun when you lose.

GRAPHICS

ADDICTIVENESS



LASTING APPEAL

DOCUMENTATION



FLOPPY DISCOUNTS.



If you're used to floppy discs with stiff prices, we have good news. Amstrad now sell 3" compact floppy discs for £2.99.

They're suitable for the Amstrad CPC 6128, PCW 8256, PCW 8512 and the new PCW 9512 and all other computers that have 3" disc drives.

Each disc carries up to 360k of data (on the 8512 and the 9512 this doubles to 720k).

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QUESTION TIME

Okay, okay, questionnaires are really boring. They take up a whole page of the magazine which could be used for something really interesting like a program to print out five pound notes on your PCW printer. But we really do want to know what you think of us, good or bad. Your comments to PostScript in the past have inspired many a feature that we wouldn't otherwise have thought of – this month's genealogy article is one – so your opinion *does* count.

Please fill in as much of the questionnaire as you can. If you are the shy, retiring type then don't feel you have to provide your name and address... but if you do then you will be in with a chance of winning a software voucher. The first three questionnaires out of the editorial cloth cap on September 28th will receive £25 towards any of our special offers, subscriptions, binders etc, in this issue or any future one.

Feel free to add any other comments on continuation sheets. Send your replies to **Question Time, 8000 Plus, 4 Queen Street, Bath BA1**

Name

Address

Age

Occupation

Spare time activities (eg. running a local society)

Which computers do you own

☐ none ☐ 8256 ☐ 8512 ☐ 9512
☐ other

Do you use your PCW at home or for business

☐ Home ☐ Business ☐ Both

What software packages do you own (tick if you own, cross if you are thinking about it)?

☐ Word processor (not LocoScript)
☐ Database ☐ Spreadsheet
☐ Accounts ☐ Programming
☐ Games ☐ Graphics

What hardware do you own (tick if you own, cross if you are thinking about it)?

☐ Printer
☐ Modem
☐ Disc drive (hard disc/5.25" disc)
☐ Other

Which was the first issue of 8000 Plus that you saw?...

Are you an occasional or a regular reader?
☐ Occasional ☐ Regular

Please name the programs you have bought

Would you say that 8000 Plus has got better or worse since you began reading?

☐ Better ☐ Worse ☐ Same

Which magazines do you read (not necessarily just computer mags) and how do you rate them out of 5?

8000 Plus .5

Do you in general find the technical skill required to read an 8000 Plus article

☐ Too high ☐ About right ☐ Trivial

Here are the regular 8000 Plus features. Please rate them out of 5.

Key Words (editorial)	.5
Case in Point	.5
LocoScript articles	.5
CP/M articles	.5
Langford's printout	.5
Program listings	.5
Public Domain software	.5
TipOffs	.5
The Good Software File	.5
PostScript	.5

Would you like more articles on programming?

☐ No ☐ BASIC ☐ Logo
☐ Other languages

In cases where you have bought products on the strength of an 8000 Plus review, how accurate do you find the reviews?

☐ Accurate ☐ Generally fair
☐ Didn't spot some important problems

Do you have any general comment about how 8000 Plus could be improved?

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HITCHING A LIFT

Tony Flanagan initiates beginners in the gentle art of adventuring with a look at the classic Hitchhiker's Guide to the Galaxy

Have you ever looked at the games review pages in magazines and wondered what all this fuss about 'adventure' games is? Maybe you've actually gone and bought one and given up after a few frustrating hours. You need to penetrate the adventurer's mentality to really start to enjoy these games; you need to know a few basic tips and tricks on how to get the answers you want. Without giving too much of the fun away, here's a gentle tour through The Hitchhiker's Guide to the Galaxy for the newcomer.

So, anyway, it's like this. One day you wake up with one hell of a throbbing which feels as if there's a pneumatic drill attacking pieces of your skull. If only you hadn't overloaded your puny organism with rather efficacious poisons of the alcoholic kind.

Front of House

You can enter your home to the north. A path leads around it to the northeast and northwest, and a country lane is visible to the south. All that lies between your home and the huge yellow bulldozer bearing down on it is a few yards of mud.

Mr. Prosser, from the local council, is standing on the other side of the bulldozer. He seems to be wearing a digital watch. He looks startled to see you emerge, and yells at you to get out of the way. The bulldozer rumbles slowly toward your home.

>PROSSER, HELP ME

"Please step aside as I need to be able to knock your house down."
The bulldozer rumbles slowly toward your home.

>PROSSER, STOP THE BULLDOZER

Prosser says "I wouldn't stop the bulldozer even if you were lying in front of it!"
The bulldozer rumbles slowly toward your home.

▲ Deceptively offhand replies conceal vital information - Prosser is telling you to lie down in front of the bulldozer

To make matters worse, you soon discover that the council is outside with a big yellow bulldozer heading towards your albeit humble abode. Perhaps you should have paid the arrears. Still, bulldozers? That's heavy. It's not until you open the junk mail that you discover that a demolition order has been served on your house to make way for a bypass. Things can't get worse.

Well, as one might expect, things can and do. That well-known body The Galactic Hyperspace Planning Council has apparently served a demolition order on the Earth itself. This is to make way for a hyperspatial express route which, even from a mere earthling's point of view, does not seem wholly unjustified. After all, why should a fractious little planet like

ours stand in the way of progress?

And so begins one of the best adventure games you're ever likely to encounter: The Hitchhiker's Guide to the Galaxy. This, as most earthlings are no doubt aware, began life as a radio series, was transcribed to the printed page, then later appeared on TV which, all in all presumably made its progenitor, Douglas Adams, nauseatingly rich. Having read the various books helps at first, but the plot of the game soon takes its own route.

Like all good adventures, Hitchhiker's is an experiment in sustained masochism. As the player you submit yourself to days of ceaseless searching as you try, often in vain, to crack the most absurd puzzles and converse with characters whose manner is strange and whose responses can be far from helpful. Still, there are pleasurable moments... like when the stupidest solution you can think of turns out to be... well... stupid.

Still in the dark

Even though Infocom games are the best, this doesn't mean they're the easiest to play, particularly if you're new to adventuring. There's nothing more demoralising than forking out twenty or thirty smackers only to find that the game is unplayable or, to put it more correctly, you can't play the game.

By incorporating a few simple techniques into your play, the whole enterprise will suddenly seem far more enjoyable (unless you really are a masochist of course). Once you make any significant progress in a game it's essential that you save your position. This means that if your progress is suddenly thwarted (a flying piece of masonry perhaps?) then you won't have to start all over again from the beginning. This is simply a matter of typing in *SAVE*, then inserting a formatted disk with some free space on it, keying in a file name and pressing *[RETURN]*. Should you wish to restore a saved position, type in *RESTORE*, insert the disk on which the position is stored, type in a file name.

Another time-saving strategy is to make a map, identifying the name of each scene you enter and its geographical/spatial position in relation to others so that eventually you have in front of you a matrix of squares, all signifying a particular scene in the unfolding drama. Such cartography, does not have to be very complicated. In this way you will save yourself eons of time which otherwise you would spend wandering (and wondering) aimlessly.

To keep track of where you've been and how you got there, Infocom adventures enable you to make a transcript of anything that takes place on screen. This is done by typing in *SCRIPT* (to begin the transcript) and *UNSCRIPT* (to end transcript). This is a means of reviewing your progress and making sure that you haven't missed an important clue or failed to pick up an essential object. In Hitchhiker's, for

But there's more

Hitchhiker's, of course, is just one of a string of excellent games produced by the American software company Infocom of which Steve Meretzky appears to be the principal figure. Other successes such as *Moonmist*, *Sorcerer*, *Hollywood Hijinx* and *Leather Goddesses of Phobos* have been reviewed in these pages and justifiably applauded. But what makes Infocom adventures so special? Is it the novel packaging, the superbly written texts, the strong atmosphere, the meaningful

interaction, the totally convincing fictional worlds, the array of bewildering puzzles, the zany humour, the comprehensive manuals... or is it merely the fact that Steve Meretzky slipped me a fiver? Well it's certainly not the latter - it takes more than a fiver to bribe an incorruptible old bogtrotter like myself (a gallon of Guinness at least!). Infocom games are distributed in the UK by Actovision (01-431 1101) and cost £24.95 each.

▼ The Guide is a mine of information. It will tell you all about the Ravenous Bugblatter Beast and gargle blasters!

>>consult guide about beast
The Guide checks through its Sub-Etha-Net database and eventually comes up with the following entry:

The Ravenous Bugblatter Beast of Traal is a mind-bogglingly stupid animal. It has almost no capacity for learning from experience and is therefore surprised by virtually everything that happens to it. Here is an example of how stupid it is: it thinks that if you can't see it, it can't see you. Its behaviour would be quite endearing if it wasn't spoiled by this one thing: it is the most violently carnivorous creature in the Galaxy. Avoid, avoid, avoid.

>>consult guide about gargle blaster
The Guide checks through its Sub-Etha-Net database and eventually comes up with the following entry:

The best drink in existence; somewhat like having your brains smashed out by a slice of lemon wrapped around a large gold brick.



which frequently contains hidden clues for
 sunglasses, a Don't Panic badge, and a

example, it's very easy to forget your towel or even your gown, both of which are indispensable. Infocom adventures admit 'verbose', 'brief', 'superbrief' modes depending on how detailed you prefer the descriptions. Unless you know a room well it's better to stick with brief or verbose as you might miss vital information.

Like all respectable adventures, Infocom games have the following commands: LOOK (describes a location), EXAMINE (describes an object) and INVENTORY (lists the objects being carried). The command WAIT (or Z for short) is often

useful as it gives you time to see what a character is doing or what the result of an action might be. AGAIN (abbreviated to G) repeats the previous command you have made and saves you retyping lengthy commands. In Hitchhiker's, the command DIAGNOSE gives you a current report on the state of your health. Try this one at the very beginning of the game or later in the Vagon Hold.

Hitchhiker's guide

At the very start of the game you find yourself in darkness. Switching on the light might help but then there's the hangover to contend with. Perhaps an aspirin might help but then of course you've got to find one and with a hangover like yours it's not going to be easy. Perhaps for decency's sake you should put something on.

Having discovered that your house is about to be demolished it's time to step outside and sort this council fellow out! Mr Prosser's implacability is only matched by his singleness of purpose. No amount of pleading will stop him carrying out what his superiors have ordered him to do. Still, you're not going to take it lying down... or are you?

If you do the right thing and wait long enough, Ford Prefect (lately of Guildford, formerly of a small planet in the vicinity of Betelgeuse), will appear to save your house and whisk you off to the Horse and Groom for a quick pint or three before the world ends. The number of pints one drinks is of great importance. Beer, by the way, is a great muscle relaxant, essential for matter transference. Drink too much, and you'll be sent back to the beginning suitably chastised. Drink too little and your body just won't be able dematerialise and hitch your lift to safety when the moment calls. Back outside, there are only a few minutes left before the Vogons energise their demolition beams. Ford will follow and provide you with the the Sub-Etha Sens-O-Matic, an electronic thumb, which is your passport to further adventuring in the cosmic void.

Having successfully hitched a ride you find that, in a manner of speaking, you don't really exist. All that dematerialisation has disorientated you. To continue in the game you must pull yourself together and come to your senses. By waiting and examining the senses the text mentions (or more importantly the one it omits), you'll realise that one sense is a little more important than the others. Use this sense and you'll soon come round but only to pit your wits with a babel fish dispenser. Ha Ha! Never seen one of those in the works canteen now have you!

Now the babel fish is a canny beast in that it allows you to understand any language, including Vagonese. Getting the fish in your ear, therefore is the main object of this episode and this, one would think, is simply a matter of pressing the dispenser button and bending your ear over the

Expect the unexpected

Now one of the naughty things about Hitchhiker's is that responses to commands are not always totally reliable. In fact, occasionally you'll find that your computer actually tells you teeny-weeny, well, whacking great whoppers, so don't take all the responses at face value.

Talking to the other characters can also provide useful tips as well as amusement, though again, don't treat what they say as gospel. They're there to be challenged just as in different ways they challenge you. If you want to talk to a character, type in the name followed by a comma and then your message. For example, Prosser, stop the bulldozer

(as if he would!). Whether you believe his response or not it does provide you with a valuable clue.

It is also important to remember that every problem in Hitchhiker's has a perfectly illogical solution. This is not surprising in an absurd universe, only a little less absurd than our own. Intelligence, for example, is 'the ability to reconcile totally contradictory situations without going completely bonkers - for example, having a stomach ache and not having a stomach ache at the same time' (from the Sirius Cybernetics Corporation android manuals).

slot. Don't you believe it! It would probably be a good idea to block up any Babel fish-sized holes with appropriate objects - gown, towel and satchel in the right places - then you just might possibly succeed. Don't tell me you left the junk mail behind? Oh dear, you're just going to have to go all the way back to the beginning...

Now whether you get the fish in yer waxworks or not, you won't escape the Vagon poetry reading. By consulting the Guide which Ford has given you, you can find out much about Vagon poetry and lots of other useful and not so useful facts. Vagon verse does have a rather rugged vitality which clearly sets it apart from the Elizabethan sonnet. The line 'I will rend thee in the gobberwarts with my blurglecruncheon, see if I don't!' has a directness few modern poets could match.

Cheat mode

If the Guide's advice 'Don't Panic' cuts little ice with you, you can buy clue books for all the Infocom games. These cost £6.99 each and in the UK are available from Activision on 01-431 1101... but then that takes away all the fun, doesn't it?

```
>AFT
That entrance leads to the Infinite Improbability Drive chamber. It's supposed
to be a terribly dangerous area of the ship. Are you sure you want to go in
there?

>YES
Absolutely sure?

>YES
I can tell you don't want to really. You stride away with a spring in your
step, wisely leaving the Drive Chamber safely behind you. Telegrams arrive
from well-wishers in all corners of the Galaxy congratulating you on your
prudence and wisdom, cheering you up immensely.

>AFT
What? You're joking, of course. Can I ask you to reconsider?

>NO
Engine Room
You're in the Infinite Improbability Drive chamber. Nothing happens; there is
nothing to see.

>LOOK
Engine Room
I mean it! There's nothing to see here!

>LOOK
Engine Room
Okay, okay, there are a FEW things to see here. This is the room that houses
the powerful Infinite Improbability Generator that drives the Heart of Gold.
An exit lies fore of here.
Sitting in the corner is a spare, portable Improbability Generator.
There is an ionic diffusion rasp here.
There is a pair of hypersonic pliers here.
```

▲ Beware false prophets - the game's replies often lie to you!

The end of the world

It's clear that Hitchhiker's is a masterpiece of comic science fiction. Like other Infocom games it's one that, can be immensely enjoyable providing it is approached in the right way. There's a great deal to explore, a wealth of puzzles and many fascinating characters. The only problem is that such games can be too absorbing - you forget the kids' appointment with the social worker, your appointment with the psychiatrist, the psychiatrist's appointment with the social worker... seen any Sub-Etha Sens-O-Matics around lately?

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Enhancer

£14.95 ● HPA Systems ● 08697 508

Most PCW owners feel they could make use of a database. It is usually the complications of finding out how databases work that puts people off. So HPA Systems have come up with Enhancer, a simplified database based on the mail merge program LocoMail.

Unfortunately you have to already own LocoMail to use Enhancer but anyone who does already have the program might well find Enhancer a useful investment. As an added extra it goes some way to simplify the use of LocoMail, a powerful if not totally approachable program. Or you can buy Enhancer bundled with LocoMail for £44.95.

What you get is a simple database in a homely LocoScript environment. It is restricted in what it can do compared to virtually any other commercially produced database but as most people's needs for databases are usually simple name and address lists this may not put too many people off.

Each record can contain a name, address and telephone number and up to four fields which you can set for yourself. Using the fields properly is the real art of any database to make sure that you can get the information you want out as quickly and as easily as possible.

Enhancer uses the concept of positive and negative filtering. Say you use the program for your Okapi Breeders' Society records. One field could be for the kind of Okapi

Enhance your Locomail with a database add-on and cut out corruption with a sharpened up Knife plus

bred. Should you want all the names of people with Brindled Okapis you use Positive filtering while if you want everything except Brindled and Belted you use Negative filtering.

Using LocoMail in this way under normal circumstances does involve learning what in effect is another programming language. This has been simplified by Enhancer by clever use of the LocoScript paste facility. The LocoMail commands are simple enough but not particularly memorable. Using Enhancer you don't need to remember that ELSE is (+Mail)><(-Mail). You just use [PASTE] L and the suitable phrase is there.

You also can make use of all the sophisticated calculating and mail merging facilities that are available in LocoMail within your database. It is obviously not particularly fast or sophisticated but if you already have LocoMail you can get a cheap database and some help in understanding the intricacies of LocoMail.

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Knife Plus

£19.95 ● Hisoft ● 0525 718181

Getting information out of a corrupted disc has never been easy but the response to the recent 8000 Plus feature on disc recovery has shown that there are many people desperate enough to tackle it. Now Hisoft, one of the first in the field with their Knife disc recovery program, have helped by producing Knife Plus, a friendlier method of tackling difficult discs. This has added a couple of invaluable functions to an already useful program.

messages like "address mark missing" or "data error". You follow the prompts to copy what can be saved to a new formatted disc.

If it is the start-up (boot) sector that has gone wrong the sector editor will tell you to put in a good disc and copies a good boot sector on to the corrupted disc.

Even if the damage is in the disc directory (all the details of where the files are stored throughout the disc) Knife+ can help. You can wander through the disc, with the help of a new help screen to keep track of the not too obvious key-presses until you find each block of your file. Because of the way CP/M fills in gaps where old files have been deleted these can be all over the disc.

Once you have found the first block choose the store block (or sector) option which copies the data to a file in the M drive. Add each block you find (simply done with a single key press) and save to disc once you're finished.

One question is why Hisoft couldn't have called Knife+ something different to distinguish it from the original Knife which is still provided with the package. In fact having the details of the new features in a separate leaflet could also cause confusion.

The manual itself is written assuming a fair amount of knowledge but this kind of operation probably should not be tackled by beginners anyway. And Knife Plus has certainly gone a long way towards making this kind of delicate surgery accessible to the average PCW user.

EXIT

RANGE OF FEATURES ■■■■■
EASE OF USE ■■■■■

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DOCUMENTATION ■■■■■

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```
CP/M Plus Knife Plus Disc Sector Editor V3.0 (C) Hisoft 1987
Drive: B Track: 8F Sector: 03 Block: 0140 File: KNIFE .813
0000 50 61 67 65 74 67 70 3A 51 75 69 63 6B 69 65 73 00000000
0010 00 0A 4B 6E 69 66 65 20 50 6C 75 73 0D 0A A3 31 00000000
0020 39 2E 39 35 20 2A 20 48 69 73 6F 66 74 20 2A 20 00000000
0030 30 35 32 35 20 37 31 30 31 38 31 0D 0A 47 65 74 00000000
0040 74 69 6E 67 20 69 6E 66 6F 72 6D 61 74 69 6F 6E 00000000
0050 20 6F 75 74 20 6F 66 20 61 20 63 6F 72 72 75 70 00000000
0060 74 65 64 20 64 69 73 63 20 68 61 73 20 6E 65 76 00000000
0070 65 72 20 62 65 65 6E 20 65 61 73 79 20 62 75 74 00000000
0080 20 0D 8A 74 68 65 20 72 65 73 70 6F 6E 73 65 20 00000000
0090 74 6F 20 74 68 65 20 72 65 63 65 6E 74 20 30 30 00000000
00A0 30 30 20 50 6C 75 73 20 66 65 61 74 75 72 65 20 00000000
00B0 6F 6E 20 64 69 73 63 20 72 65 63 6F 76 65 72 79 00000000
00C0 20 68 61 73 20 0D 8A 73 68 6F 77 6E 20 74 68 61 00000000
00D0 74 20 74 68 65 72 65 20 61 72 65 20 6D 61 6E 79 00000000
00E0 20 70 65 6F 70 6C 65 20 64 65 73 70 65 72 61 74 00000000
00F0 65 20 65 6E 6F 75 67 68 20 74 6F 20 74 61 63 6B 00000000
First Half Press [ALT]-H for Help Building M:SAVED .TXT
```

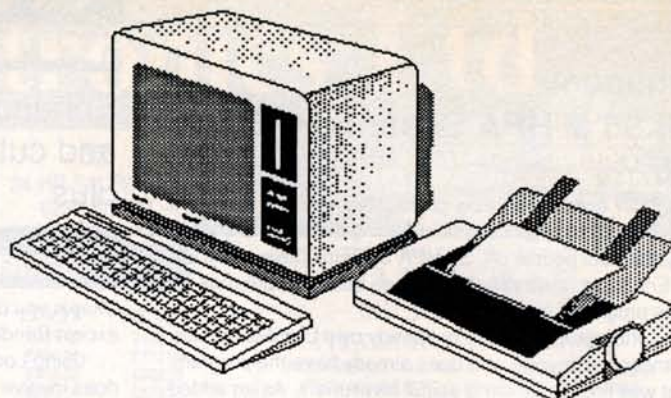
▲ Find the lost text and build a new file.

One improvement is the new Sector Copier, which copies every sector that is not actually corrupted. (Try to do the same thing with Diskit and it stops the first time you reach a bad sector). This means you can copy all useable data and patch up the back-up disc without risking the original.

This can be a time consuming exercise as the program tells you what sectors it cannot copy and why, with chilling

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THE URGE TO EXPLAIN

Ian Sinclair, successful author of many books including PCW tutorials, has some words of encouragement for technical writers.

Most people think of 'writing a book' as writing a novel, but the truth of the matter is that the vast majority of books published are non-fiction. Armed with your PCW, all you need to make a little money from your writing is expertise in your chosen area, an organised mind and the ability to express yourself clearly on paper.

There is a widely-held belief that anyone who has knowledge of a subject can write a technical book or article on that subject, but a quick glance at some of the manuals that come with computers and their software should soon dispel that fantasy. The unfortunate fact is that technical writing is a skill that is acquired by experience, and it's not always easy to obtain the experience. It's rather like Catch-22 – your work will be accepted when you have the experience, and you never get the experience until your work has been accepted. How, then, do you get yourself into the business of technical writing?

The obvious necessity is to have some technical expertise. This doesn't mean that you should be an expert, far from it. Only too often the expert is the worst possible technical writer because he or she never realises that readers are not experts. Certainly if you are writing for post-graduates you need to be an acknowledged expert in your field, perhaps the acknowledged expert. For any other purposes, and particularly if you are writing for the general

public, what you can get over is a lot more important than what you know, always assuming, of course, that you know enough to understand the topic for yourself.

In short, don't be intimidated just because you don't understand everything about your subject, but make sure you know really thoroughly about what you are explaining. If you want to write about car servicing you don't need to know how to replace a clutch, but you certainly should know how to adjust the cable and check for correct operation.

Practice makes perfect

Technical know-how also implies have-done. You quite definitely must have practical experience of what you are writing about, because unless you have tried something for yourself you don't really know about it. You may be quite convinced after reading a manual for a piece of software that you know how it works, but it's almost certain that when you start using it for yourself you will find that your understanding of the manual does not always correspond with what actually happens. Would you know from reading the LocoScript manual that you cannot replace each occurrence of 'definitely' by 'definitely' because the underlining command cannot be placed into a search-and-replace? One fellow-writer came unstuck on that one not long ago, and I still have painful memories of assuming that the commands on the Amstrad CPC664 computer would follow a predictable pattern. Never assume that anything will be what it seems, particularly if it has any connection with computing.

Booking your place

Breaking into books is something you do once you have made your name with articles, because by then you can write a preliminary letter to an editor that can include references to some of your published work. In this preliminary letter it is important to include an outline of the proposed book, with chapter headings and summary of contents, number of words and illustrations. Even then, it can be as much a matter of luck as good judgement in finding an editor who wants the sort of title that you are offering. Don't expect it to be easy, and don't feel that because your proposed book doesn't fit one editor's list that it won't fit another. You do not have to have written the book at this stage, because if you have made a thorough job of the outline synopsis the book will not be difficult or take long to write.

To start with, then, select your publisher with some care. This may seem obvious, but I knew someone who submitted a book on Fresh-water Ecology to Mills & Boon. To some extent, selecting a publisher is easier for the technical writer, because you are likely to have come across books from the publishers who are most active in your field of expertise. You can find out a publisher's address by going into a bookshop or library and looking on the back covers or copyright pages of their titles.

You should get a reply to your preliminary letter fairly soon, and if the publisher is interested you will be expected, unless you are very well known, to submit a sample chapter. This need not be the first chapter of your book, but it helps if it is, because the first chapter is usually the most difficult to write.

The sample

The first chapter is where you want your readers to start, so that it's here that you outline what level of knowledge you assume the reader already has so that he/she can decide very quickly if the book will be suitable. The less you assume that the reader knows, the more readers will find your book useful. For example, don't assume that because your readers possess a PCW computer they must surely understand how to use CP/M. Chapter 1 sets the tone of the

A foot in the door

How do you get the sort of experience that is useful for technical writing? Technical teaching is by far the best grounding that anyone can have for learning how topics have to be explained. As any technical teacher will tell you, the first thing you discover when you start teaching a subject is just how little of it you really understand, as distinct from how much you remember. The second thing you learn the hard way is that you don't know how well you have communicated something until you find what someone else has made of it, and this is a form of feedback you don't get when you write. In particular, it gets you out of the habit of using jargon words like 'boot', 'syntax' and all the rest, before you have explained them thoroughly, a major fault in a lot of technical writing.

We can't all get this type of experience, even part-time with evening classes, so how do the rest of us get started? You should start in a small way, which has the great advantage of getting your name known. Articles in magazines perform this function admirably, and there are few technical authors I know who have not made a start in this way. Writing articles gives you experience in gathering facts, organising them in a logical sequence and explaining methods – the key parts of technical writing. In addition, magazine editors are more inclined to take an interest if they think you have some useful expertise. There will be more about magazine article writing in an article (how else?) in a future issue.



book, and should take more time than any other Chapter in the book, even if you are not submitting a sample. It should be laid out in a logical sequence, broken up into reasonably short paragraphs, with sub-titles as needed. The printing should be on A4, double-spaced, one side only. The assessment of this sample will take time, because it has to be sent to someone who can judge it technically, perhaps another author. If you hear no more after a month, however, it does no harm to ring up and enquire.

Reading a sample means that a publisher has invested some time and money on your idea, so that if your book proposal has any merit, but your writing techniques could be improved, you are likely to be told rather than have the proposal turned down completely. If you get a quick rejection at this stage, it's likely that there is a serious flaw in your sample, and you will have to re-draft it before you try again with another publisher. Sooner or later, if there is any merit in the idea, you will receive a contract in the post. Some contracts specify an advance, which will be returnable if you don't deliver. Watch also for the royalty figure – some contracts specify 10% of cover price, which is good, but others state 10% of money received, which amounts to 4% or less of cover price and means that large sales do not translate into a lot of cash for you.

You then have to submit the rest of your work. Even if delivery on disc is called for, always print a paper copy even if only for your own eyes, because faults that seem to pass un-noticed on the screen will scream at you from a piece of paper. Make sure that everything is as you want it, because alterations to a book once it has been set into print are ruinously expensive, even in these days of computer typesetting.

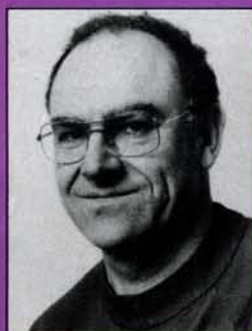
Once you send off the manuscript start planning your next book, with the experience of the first behind you. The important thing is to keep up a continuous effort, because if

your first book succeeds you will need a second one to pay the tax bill, and if the first one does not succeed you will want to try again anyhow.

The rewards

Finally, what can you expect to get out of all this work? The most important answer is satisfaction, knowing that you have imparted some useful information to readers. You will not make a fortune unless you happen to hit a lucky jackpot, and you should not expect to be able to become a full-time author overnight. It took me 23 years of part time work to get to the full-time stage, and it can still be a precarious life. Don't expect any perks like computers on loan, though if you are writing in other technical fields you may find firms more cooperative. You have at least one advantage that was denied to me in my early days – a computer that is an excellent word-processor and which can also be used for your book-keeping and data-processing. That's progress.

EXIT



● Ian Sinclair started writing technical articles while working with English Electric Valve Co. on TV camera tubes. Moving to technical teaching in 1966, he started to write textbooks for the courses (Electronics and Physics) that he taught. When the first home computers became available, he decided that the manuals could bear improvement and launched into a series of books on this type of topic. This led to becoming a full-time author in 1983 and he now has a total of 96 books published on a variety of technical topics.

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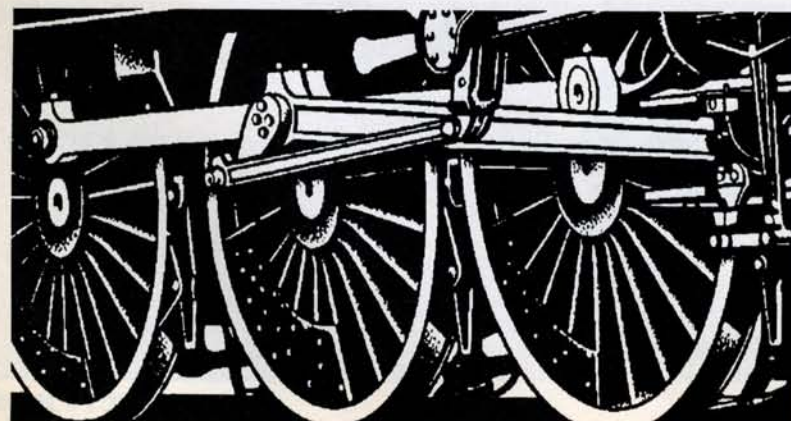
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The Acts covering legal deposit were drawn up before the days of electronic publishing, and currently non-printed forms of publication (cassette, disc, LP, ROM chip etc) are excluded, and so is printed text designed purely to accompany non-written publication. On the other hand, the fact that, after LocoScripting it, you choose to produce your *Guide to Good Dosshouses* duplicated with a forty-year-old Gestetner on lavatory paper does not exempt it.

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The "public" to whom you distribute can be fairly limited and still come under the requirement. The fact that you only send your *Newt Newsletter* to paid-up club members doesn't exclude you; if anyone can join, then the material is 'published' and liable for deposit. It doesn't matter whether or not you charge for the publication either.

The exceptions are really very limited: pure advertising matter; blank diaries or notebooks; straight reprints; manuscripts or material copied to only a very few people such as memos and letters. Some publishers worry about



▲ The Reading Room of the British Library during Wimbledon fortnight

'limited circulation' magazines and similar confidential material – these items are commonly deposited under an agreement whereby they remain locked away from the public for a specified period.

Every issue of a magazine or newsletter must be deposited; also, 'publication in the UK' means distribution to the public. If you happen to be importing Scandinavian magazines for distribution to other train spotting enthusiasts, you still have an obligation to deposit copies.

The law is pretty comprehensive. It is far better to assume that the obligation does apply to you, or at least check with us first.

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DEPOSIT ACCOUNT

Publishing with your PCW? Ben Plouviez explains your legal obligations

The British Library is legally entitled to receive a copy of anything published in the UK, and the obligation falls on the publisher, not the author, to ensure this 'legal deposit' is carried out. But you don't have to be a Robert Maxwell to qualify, just someone selling or distributing written material to "the public". That means many clubs and societies, interest groups, schools and colleges, and possibly you are, under the law, publishers.

Pass, friend

These collections are, of course, available to the public to study (not to borrow, since they are for archive purposes), but there are restrictions on the issue of Reader's passes giving access to the main Reading Room in the British Museum building in London. This is intended for people who cannot readily find material through the other libraries, usually because of its rarity.

Looking through our huge daily intake of legal deposit material one thing becomes immediately clear to a PCW owner like myself; just how many people are using

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Spaced out

How do we deal with this massive quantity of material? With over 50,000 books coming in each year, three times as many periodicals, and foreign material, the problem is a pretty big one! The total number of volumes in the British Library is said to be well over eleven million. Most of the older books are stored in the huge Victorian stacks built around the Reading Room in the British Museum building.

Others are kept in stores around London, the major ones being a former tobacco warehouse in the East End and a shed in the Woolwich Arsenal. In the early 1990s, the new British Library building next to St Pancras station will provide a purpose-built home for the vast bulk of our collections – mostly underground in huge basements.

PCWs to produce good quality, well-designed newsletters, magazines and even books. Those characteristic typefaces can be seen everywhere. Probably no other computer has led so many people to become authors but, in the technical sense, publishers as well. The fact that this brings the obligation of legal deposit should not be regarded as a burden; it puts you right up with Robert Maxwell and Rupert Murdoch – with a place in our National History.

EXIT

● Ben Plouviez works in the British Library. Enquiries relating to legal deposit and publications should be to:
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Les Six

The British Library is only one of the six legal deposit libraries entitled to receive a copy of everything published in the UK and The Republic of Ireland. The others are Cambridge University, the Bodleian in Oxford, the National Library of Wales, the National Library of Scotland and Trinity College, Dublin. They get their copies through a single agent; details can be had from The Agent for the Copyright Libraries, 100 Euston St, London NW1 2HQ.

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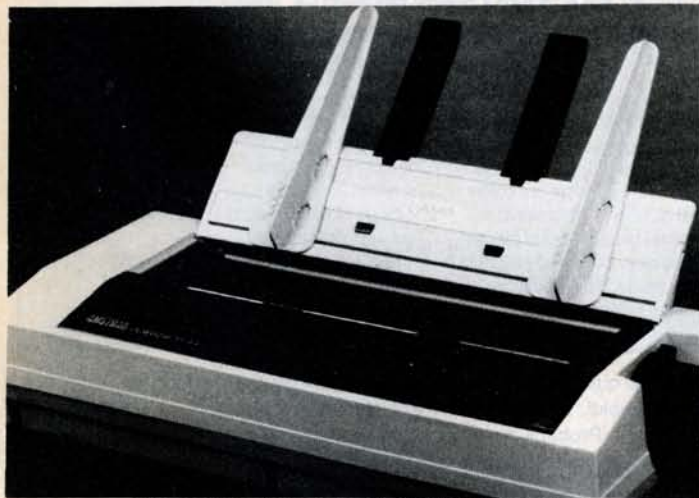


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LANGFORD'S PRINTOUT

A page foolishly handed
over to SF author
DAVID LANGFORD who
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ESCAPE PLANS

As I type this, I'm preparing to get away from it all to the World Science Fiction Convention in Brighton – which like August Bank Holiday will be but a lavender-scented memory by the time you read this. Computers will certainly have played their part in the event. Amstrads and many others were being ferried in by the carload to help run the mighty organization. Despicable authors like D. Langford will have prowled the hotel bars, cadging drinks from unwary *8000 Plus* readers. And inevitably the dark future of computers in SF will have been mentioned in countless convention talks and panels.

The science-fictional image of computers has changed in recent years. Admittedly, Isaac Asimov's robots still creak and clank and find new loopholes in the Three Laws of Robotics (his last book featured the addition of a Zeroth Law, which goes roughly "Stuff the other three

laws – the end justifies the means.") Arthur C. Clarke still churns out 2001 sequels about boring old HAL 9000.

Authors whom I won't embarrass by naming are still writing versions of that old Fredric Brown story in which the ultimate computer is turned on and asked the ultimate question, and replies "Yes, *now* there is a God!" But the real action today is summed up in the newish word 'cyberpunk'.

The master of cyberpunk is William Gibson, whose high-energy novels *Neuromancer* and *Count Zero* are recommended. Here computers are much more personal and intrusive things than those we know. You plug right into them and bypass all those fussy CP/M commands or LocoScript menus. The typical Gibson hero is a sleazy, high-tech hacker who sits at the console with his brain jacked into the unreal world of 'cyberspace', a hallucinatory realm of information transfers and software security in the world-wide data network. Down these mean computer banks a man must go....

There are deadly dangers there, Intrusion Countermeasures Electronics or ICE, which can feed back to burn out your brain if you try to hack into the wrong places – rather more worrying than a 'Wrong password' message from Prestel. It's all a sort of streetwise and nearly credible version of that uneven film *Tron*.

Cyberpunk SF is a very American product. The nearest

thing to a British version is Gwyneth Jones's novel *Escape Plans*, which is fairly heavy going to begin with (lots of jargon and horrible acronyms) but opens out into a nastily persuasive vision of a future world where computer systems have been so absorbed into our environment that they virtually *are* the whole environment.

Escape sequences

So much for the SF visions, in which we just think at our Amstrads and watch the exquisite sentences taking shape on the screen. In the real world, communications are so dodgy that not only can't the machines understand mere users, but most of us are left foxed by large chunks of the manuals produced by so-called experts in communication. The title of Gwyneth Jones's book reminds me that newcomers always seem particularly foxed by the words (don't all scream at once, now) 'escape sequence'.

It's like this. In a feeble attempt at making it possible for all computers to talk to each other, text characters are stored in the machine as standardized numbers. This is the dreaded ASCII code, the American Standard Code for Information Interchange.

On just about any micro, you can be pretty confident that a space will be coded as 32, the upper-case letters A-Z as 65 to 90, and the lower-case alphabet as 97 to 122. See the 'Complete Character Set' table starting on page 113 in your CP/M manual.

Characters with ASCII codes over 127 are a bit dodgy and vary from computer to computer. Those with codes from zero to 31 have special meanings – character 9 is a Tab, for example, and character 13 a Return (though not in LocoScript, which has its own perverse coding).

The tradition is that when you want to send a special control message to the screen (such as 'clear screen') or the printer (such as 'start printing in italics') it's done by pretending to display or print a sequence of two or more characters, starting with ASCII code number 27, alias ESC or 'Escape'.

For example, the CP/M manual says that to print in italics, you need to print ESC 4, meaning character 27 followed by a 4 (which in the ASCII table is actually character 52!). From BASIC this could be done by `LPRINT CHR$(27);"4";`...the Escape won't be printed and neither will the 4, but the pair will be taken as a command to use italics for whatever's printed next.

When Protext or LocoScript 2 asks for information for a new 'printer driver' to run a different printer, you're expected to look up hordes of these boring escape sequences from the usually impenetrable printer manual, and type them in so that your word processor will know what codes to send when it's asked to do italics, underlining, elite or pica type, etc. Once the information is correctly entered, everything should be automatic. The word processor is then 'configured' for your non-standard printer. It can be a long trial-and-error process.

If we lived in the world of cyberpunk, we'd just plug into the system, scan the manual and think the information into the computer. Come on, Amstrad, there's a whole new market waiting here.

EXIT

Writer's View

Most people who've converted to LocoScript 2 seem pretty happy with it, but the Writers' Guild newsletter contains a more jaundiced view. Their chap's peeve is that after years of learning to use all the Loco 1 function keys without thinking, he keeps miskeying the shuffled-around Loco 2 functions. The moral – if you're a Loco 1 adept, don't change to Loco 2 just before an important deadline – wait until you've time for a few weeks' relearning.

Another Word From Alan Sugar

My partner in the tiny computer firm Ansible Information had a phone call recently "Hello. We want free copies of all your software."

The answer, not unreasonably, was "No. Go away."

"Ah," said the voice on the phone, "but we're Amstrad!" The tone conveyed that all

listeners should fall to their knees and worship.

Reasonably enough, my pal said "Well, Alan Sugar can afford to pay retail price for a disk if he wants one."

"Alan Sugar didn't get where he is by paying for software, sunshine," said the far-off voice....

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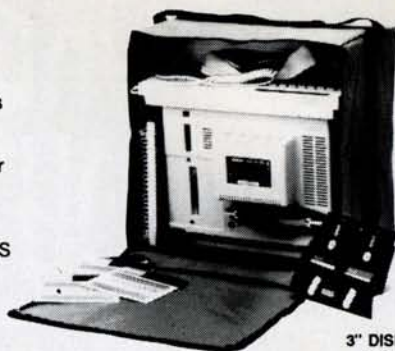
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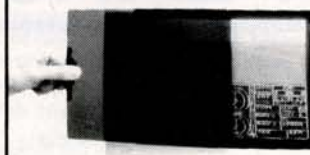
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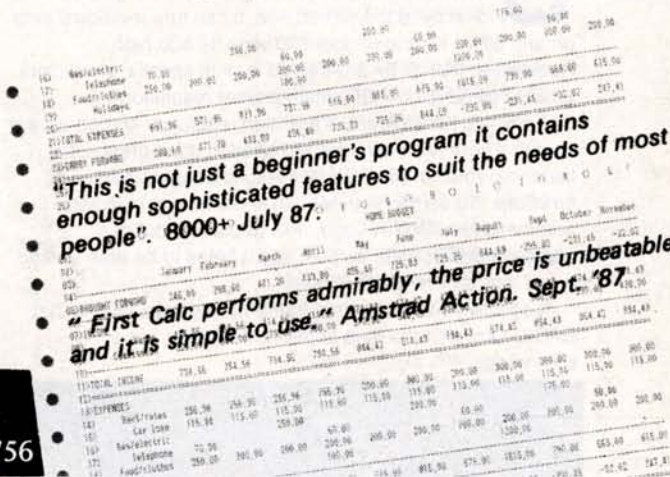
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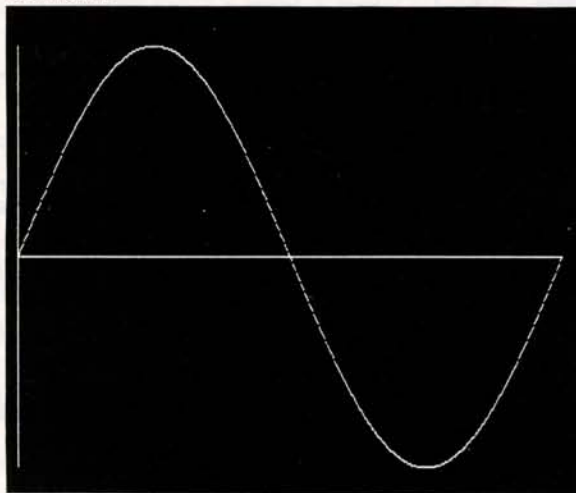
SORDID DETAILS

Over the last three issues we've looked at Dr. Logo's commands to control the screen and move the turtle around, introducing some programming techniques along the way. Drawing pretty shapes is all very well, but to be able to write useful Logo programs there are some basic programming steps to be mastered.

One of the most attractive features of Logo on the PCW is that it can print high resolution graphics directly to the screen – ie, it can turn individual dots on and off on its grid of dots 720 wide by 520 high. Remember that all BASIC can do is print specific characters on a 90 by 32 grid – 130 times coarser resolution!

Learning how to control this high resolution screen is very useful. If your work involves the need to draw graphs, for instance, you can plot out your results or graph particular functions. To do this you need to know how to calculate arithmetic functions in Logo, how to place a dot at a particular point on the screen, and it helps to be able to read typed inputs from the keyboard.

Logo can do most of the mathematical calculations that BASIC can, with the help of the now-familiar `make` command:



```
to draw
pr [first x value?]
make "first rq
pr [last x value?]
make "last rq
make "increment (:last - :first) / 600
fs cs ht
pu setpos [-300 -250] pd fd 500
pu setpos [-300 0] pd rt 90 fd 600
make "x :first
make "xpos -300
repeat 600 [calc :x dot (list :xpos :y)
              make "x (:x + :increment) make "xpos (:xpos + 1)]
end

to calc :x
make "y (sin :x) * 250
end
```

```
make "x 1 + 1
```

sets up a variable `x` with the value 2. You can use brackets in expressions that get complicated, so

```
make "x (1 + 2) / (3 * 4)
```

sets `x` to 0.25. For the mathematically minded, a range of trigonometry functions are available too. Sine (`sin`), cosine (`cos`) and inverse tangent (`arctan`) are all there, so if you wanted to work out the tangent of variable `y` (sine divided by cosine) it would be

```
make "x (sin :y) / (cos :y)
```

Another useful function is `random`, which (you'll never guess) generates random numbers. Logo's random numbers are always whole numbers, not decimals, between zero and the number you give choose, so `random 50` generates a number between 0 and 49 inclusive.

Screen test

The next thing to do is to get to grips with the screen. As you've seen from previous articles, the main way to draw on the screen is to move the turtle to the starting point of the line to be drawn and then to the end of the line – as it moves it leaves the line behind it as a trail. Whenever you move the turtle it leaves its trail, so don't forget to do a `pu` (pen up) before you move to the start, then `pd` (pen down) before you draw the line. To make a start on the graph drawing program then, it seems like a good idea to draw some axes.

The Logo screen, you will remember, extends from -260 to +260 vertically and -360 to +360 horizontally. Assuming that you only want to cope with positive values of `x` you would want to draw a `y`-axis from (-300, -250) to (-300, 250) and an `x`-axis from (-300, 0) to (300, 0) you give the commands

```
pu setpos [-300 -250] pd fd 500
pu setpos [-300 0] pd rt 90 fd 600
```

Drawing dots as opposed to lines is a little easier – you don't need to mess around lifting the pen up and down before each dot. To put a dot at a co-ordinate (40, 50) you just say

```
dot [40 50]
```

`dot` expects a list of co-ordinates to follow, which makes things slightly trickier if the `x` and `y` co-ordinate values are held in variables since you can't say `dot [:x :y]`. Instead, you must use the command

```
dot (list :x :y)
```

which converts `:x` and `:y` into the form that Logo expects.

The only thing left to do before drawing a graph is to decide what values of `x` are going to be used. This is a good opportunity to ask the user what values to use when the program is run. Logo has three different commands to read from the keyboard: `rc` waits for the user to type a single character, `rq` reads a word ended by [RETURN] (similar to BASIC's INPUT), and `rl` reads a line of characters (similar to BASIC's LINE INPUT) and makes them into a list. As examples, if you typed key `z` while Logo was waiting to complete a

```
make "x rc
```

command, variable `x` would get set to 'z'. If you type 123 in response to

```
make "x rq
```

`x` would become 123. If you type hello boys and girls to

```
make "x rl
```

`x` would become [hello boys and girls] – a list.

A graph a minute

So to Listing One. The first thing to do is to decide what graph you want to draw – in the example $y = \sin(x)$ is drawn. This is set up by the procedure `calc`.

`draw` falls into three parts. First, it asks the user what values of `x` the graph is to span. Then knowing that because the Logo `x`-axis is 600 dots along it works out how much to increment `x` by for each dot. Finally, there is a `repeat` loop


```

?guess
Think of a number between 1 and 100
I guess 98
Is your number higher, lower or the same (h / l / s) ?
I guess 3
Is your number higher, lower or the same (h / l / s) ?
I guess 83
Is your number higher, lower or the same (h / l / s) ?
I guess 34
Is your number higher, lower or the same (h / l / s) ?
I guess 38
Is your number higher, lower or the same (h / l / s) ?
I guess 61
Is your number higher, lower or the same (h / l / s) ?
Whoop - de - doo!
?

```

```

to guess
pr [Think of a number between 1 and 100]
make "least 1
make "most 100
ask
end

to ask
local "answer
make "best :least + random (1 + :most - :least)
pr [list "I "guess :best]
pr [Is your number higher, lower or the same (h / l / s) ?]
make "answer rc
if :answer = "h [make "least :best + 1 ask]
if :answer = "l [make "most :best - 1 ask]
if :answer = "s [pr [Whoop - de - doo!]]
end

```

to calculate where to put the dot for each of the 600 values of x.

If you just type in the listing shown and run it by saying draw, you can generate the example screen by replying 0 and 360 for the first and last x values. It takes a minute or so to draw the graph.

If you want to draw something a little more exciting than sin(x), you can edit calc to whatever you want - type ed "calc, alter it as you want then [EXIT]. All you have to do is ensure that for any value of x that is given to calc, it sets up a value of y between -250 and +250 (these being the extremes of the y axis on the screen). So, you could try replacing the guts of calc by

```

make "y (sin :x) * (sin :x) * 250 with x
from 0 to 720
make "y :x * :x * (:x - 1) * 50 with x from
0 to 2

```

or any other familiar O-level formula. Don't forget to do a save "draw when you're about to quit Logo.

If only ...

When writing a program, the three things you have to master are input/output of data, repeating loops of commands and making decisions. This last one is perhaps the most important and is covered by the if primitive, which has been used in previous examples but has never been properly explained.

The basic form of the command is *if condition [commands to do if condition is true] [commands to do if condition is false]*. You don't have to have the second part if you don't need it. Here are some examples:

```

if rc = "x [pr [you typed x]] [pr [you
didn't type x]]

```

type this directly at Logo's ? prompt and it will wait for you to press a key. If you press x, Logo cleverly tells you that you

typed x, otherwise it tells you that you didn't type x. Similarly,

```

if :a = 0 [make "b 0] [make "b 1 / :a]

```

will set up a variable b to be either 1/a or 0 if a is 0 (handy since asking it to work out 1/0 would generate an error).

To show the if statement in action, Listing Two is a simple game where you think of a number between 1 and 100 and the PCW then guesses it. Whenever it makes a guess, you have to tell it whether the correct number is higher than the number you thought of, lower than it or the same.

The program keeps a track of the current highest and lowest limits for the number, so if you say that a guess is lower than the correct number the program knows that the maximum the number could possibly be is 1 less than its guess. If the number is higher than the guess, the lower limit

is modified to 1 greater than the guess. Then the next guess is a random number somewhere between the lower and upper limits.

The only thing to be careful with in random numbers is that you cover the range you want to properly. random 100 will generate a random whole number between 0 and 99, so to make a variable with a random number between 1 and 100 you have to say

```

make "guess 1 + random
100

```

Other points of interest in Listing Two are how the looping is controlled to go on guessing until the right number is found. If the PCW guesses wrong and you type h or l to the guess,

the current limits are modified and the asking procedure calls itself - you're using recursion. If you type s, the PCW has guessed right, ask prints out a happy message but doesn't call itself again and the calling chain unwinds naturally. It's important that :answer is a local variable, otherwise 'Whoop-de-doo' will print out over and over again as the recursion unwinds. Try omitting the local "answer line and see what happens.

EXIT

What are lists?

Many times over the last few Logo articles funny things called 'lists' have cropped up. Next month's gripping instalment of the Logo series will cover them properly, but a quick survey will help you to understand how pr and other commands work.

Single names or numbers in Logo are called 'words'. "fred and 1 are both words. If you want to pass groups of words around in a Logo program you combine them into a list, which has square brackets around it. So [1 2 3 fred] is a list. Logo never tries to work out what the words in a list mean. This is why you don't need the double quote mark before 'fred' if it is inside the list brackets. If you have a variable x set to 3 then [1 2 :x] will be a list of three 'words' 1, 2 and :x. If you want to get x's value into the list, you need to use the list-making primitive list. The command (list 1 2 :x) works out that x is 3 and generates the list [1 2 3].

In some cases - particularly with the print command pr - you can think of lists just like strings of characters in BASIC. pr [This is

a message] will print out 'This is a message' just like the BASIC command PRINT "This is a message". But because Logo thinks of lists as collections of words separated by a single space, if you say pr [1 2 3] you will just get '1 2 3' coming out, single spaced. Also, pr [in/out] will produce 'in / out', since '/' is a 'word' by itself (being Logo's division sign).

If you want to extract words from within lists, there are a variety of commands. For example, if shopping is a list containing [crisps chocs tea marmite], then pr first :shopping prints the first item of the list, crisps

```

pr last :shopping prints the last item,
marmite
pr bf :shopping prints all but the first
item, [chocs tea marmite]
pr bl :shopping prints all but the last
item, [crisps chocs tea]

```

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Perhaps not a high quality graphics arcade game but this simple zap-em-up game courtesy of a young John Warland is still fun. The game involves you in a duck shoot. The ducks (well they're really just }s) fly across the screen at varying heights. You fire an arrow (†) at it by pressing the Space Bar. To get the † on screen you have to use [EXTRA] and [U].

You know when you have hit the poor innocent bird because the screen flashes. The program also keeps track of the number of arrows you have fired and the number of direct hits.

DUCK-SHOOT

Take a Pot Shot at four more BASIC listings.

It is not as easy as it looks and if you want to give yourself more arrows each game change the variable 'm' in line 20.

by John Warland



```

10 DEF FNat$(x,y)=CHR$(27)+"Y"+CHR$(x+31)+CHR$(y+31)
20 end$="Overall Score.....Birds Killed=";base$="_____ [†] _____":m=20:yy=44
30 PRINT CHR$(27)+"E"+CHR$(27)+"H"
40 PRINT FNat$(29,29);"Birds Shot:";d;" Bullets Left:";m;" "
50 PRINT FNat$(28,39);base$;xx=INT(RND*27):x=xx
60 FOR y=0 TO 89:PRINT FNat$(xx,y);" "):k$=INKEY$
70 IF k$=" " AND x=xx THEN x=28:m=m-1:PRINT FNat$(29,57);m
80 IF m=-1 THEN PRINT FNat$(29,27);end$;d:END
90 IF x=xx THEN GOTO 130 ELSE PRINT FNat$(x,yy);" "):x=x-1
100 PRINT FNat$(x,yy);"†";
110 IF x>xx THEN GOTO 130 ELSE PRINT FNat$(x,yy);" "
120 IF (y=43 OR y=42) THEN OUT 247,240:PRINT CHR$(7):d=d+1:GOTO 30
130 NEXT y:PRINT FNat$(xx,y);" "):IF x<>xx THEN GOTO 60 ELSE GOTO 50

```

0EAD
2072
0869
1A66
0FB2
122A
132A
0FA0
136A
07A4
1253
169F
1767

PAGE DISPLAY

If you aren't using your PCW 24 hours a day you may well want to fill in its idle hours by running one of those informative continuous display things they use in shops. This program allows you to display page after page of informative text at nice regular intervals so you have time to read what it says. You could put it in your window advertising back-copies of 8000 Plus at inflated prices.

All you have to do is write the information in LocoScript, or any other word processor, saved in ASCII form. You decide where the page breaks come by putting a @ sign at the appropriate spot. Then save the document (using the page image option of the 'Create an ASCII file' in LocoScript).

Run the program and enter the filename when prompted. It will then

ask you the period of time between pages. This will obviously depend on the amount of text you have on each page. It will then run until the end of time or until you stop it whichever comes first.

by Jim Wallman

```

10 esc$=CHR$(27):cls$=esc$+"E"+esc$+"H"
20 PRINT cls$:PRINT:FILES:PRINT
30 INPUT "Type in the name of the text file to display >";t$
40 INPUT "How many seconds pause between pages";secs
50 OPEN "R",1,t$,1
60 FIELD 1,1 AS a$
70 PRINT cls$;
80 n=n+1:GET 1,n
90 IF a$="@ THEN GOSUB 140:GOTO 110
100 PRINT a$;
110 IF NOT EOF(1) THEN 80
120 GOSUB 140
130 n=0:GOTO 80
140 FOR p=1 TO secs*1111:NEXT
150 PRINT cls$;:RETURN

```

0A2C
0D48
173B
1551
059F
05C0
0527
04B0
0BAB
040A
07A1
03E9
04D2
0A0E
09A9

TIME

Spend a few minutes to create the ultimate time piece - the PCW alarm clock.

```

10 DEF FNat$(x,y,a$) = CHR$(27) + "Y" + CHR$(31+y) + CHR$(31+x) + a$
20 skip$="" : cls$=CHR$(27)+"E"+CHR$(27)+"H" : PRINT cls$ ;
30 INPUT "Enter call time in form hhmmss, or press return ";alarm$
40 PRINT cls$;CHR$(27);"f";FNat$(32,34,"Press any key to stop clock")
50 PRINT FNat$(33,2,"8000 PLUS ALARM CLOCK")

```

106C
10CA
1845
1786
0E76

```

60 REM Check "1234567890123456789012345678901234567890123456"
70 num$(0) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
80 num$(1) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
90 num$(2) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
100 num$(3) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
110 num$(4) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
120 num$(5) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
130 num$(6) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
140 num$(7) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
150 num$(8) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "
160 num$(9) = "   *   *   *   *   *   *   *   *   *   *   *   *   *   "

```

118B
063D
0566
0641
06CF
0778
071C
074B
0676
0788
0757

It may seem a little bit of an extravagance but it is possible to turn your PCW into an impressive digital alarm clock in BASIC. Mr Egging claims that the display can be read from 30 feet away but our office is not big enough to test this claim.

There are one or two little problems, like you can't use your PCW for anything else while it is being an alarm clock, a PCW doesn't work at its best strapped to your wrist and it is unlikely that the PCW chirrup would wake anyone up. But it does allow you to make use of your PCW 24 hours a day.

A word of warning. It is not the easiest program to type in. You may find lines 70 to 160 a bit of a problem but it is rather important to get it right. If not you will find the 'digital display' a little difficult to read as it is this combination of asterisks that makes up the numbers. You are given a bit of help from the REM line 60 which allows you to check the position of each star.

The other problem is to get the clock to show the correct time. Unless you happen to have a real time clock stuck in the back of your PCW, what will be shown on screen is how long it has been since you switched on the machine - not the most useful measurement of time.

So to use it properly you will have to look out your CP/M disc with DATE.COM on it (side three). While in CP/M (before you load BASIC) just type DATE it will tell you how long it has been since midnight on the 15th December 1982 which the PCW seems convinced is the beginning of time.

To put the correct time in you write DATE and then the date and time. Having strange American ideas it likes the date with the month first in the form MM/DD/YY divided by a slash. The time is written HH:MM:SS divided by colons. Press [RETURN] and the machine asks you to press any key at that particular instant of time you have specified. So for 2:00 PM on the 1st of October 1987 type DATE

PIECE

09/01/87 14:00:00 [RETURN]. (Remember it will use the 24 hour clock).

Then when you run the program in BASIC it will automatically come up with the correct time. You can use it either as a clock (just press [RETURN]) or as an alarm (set it by putting the time in the form HHMMSS. Of course it only works as an alarm as long as you leave it on and don't leave the program.

Then just place your PCW on your mantelpiece or beside your bed and you have a thing of beauty which is practical at the same time.

by John Egging



```

170 colon$ = "      ==      ==      ==      ==      " 0695
180 : 0000
190 WHILE INKEY$ = "" : time$ = "" 0A02
200   FOR i = 0 TO 2 050C
210     t(i) = PEEK(64502! + i) : t(i)=1000 + t(i) - INT(t(i)/16)*6 0F20
220     time$ = time$ + RIGHT$(STR$(t(i)),2) 0D4E
230   NEXT 0330
240   IF alarm$ = time$ THEN GOSUB 370 0B4B
250   IF skip$ = LEFT$(time$,4) THEN GOTO 350 0E9C
260   FOR L = 1 TO 7 0533
270     line$(L) = "" : segment = 1 + (L - 1)*8 0A62
280     FOR D = 1 TO 4 0528

```

```

290       digit = VAL(MID$(time$,D,1)) 099B
300       IF D = 2 THEN gap$ = MID$(colon$,segment,8) ELSE gap$ = " " 1446
310       line$(L) = line$(L) + MID$(num$(digit),segment,8) + gap$ 110E
320       PRINT FNat$(24,11+L,line$(L)) 090A
330     NEXT 0331
340     NEXT 0333
350     skip$=LEFT$(time$,4) : PRINT FNat$(44,21,RIGHT$(time$,2)) 13C4
360 WEND : PRINT c1e$;CHR$(27);"e" : END 00F3
370 PRINT CHR$(27);"L" : FNat$(32,31,"Press any key to stop alarm") ; 152B
380 OUT 248,11 : WHILE INKEY$ = "" : WEND : OUT 248,12 0E44
390 PRINT FNat$(32,34,"Press any key to stop clock") ; : RETURN 160F

```


1AAB
1DBA
12BA
0850
0443
0583
0506
0800
0088
098E
05F4
05F5
029F

```
Ok
run
after you have got a character right enter 'c' for another
or to change the degree of difficulty, or any other key to quit
Degree of difficulty? (1=hardest)S
!!!!!!!!!!!!!!!!!!!!!!NON what next? c
!!!!!!!!!!!!!!!!!!!!!!NON what next? c
!!!!!!!!!!!!!!!!!!!!!!NON what next? c
!!!!!!!!!!!!!!!!!!!!!!NON what next? c
-----OK what next?
```



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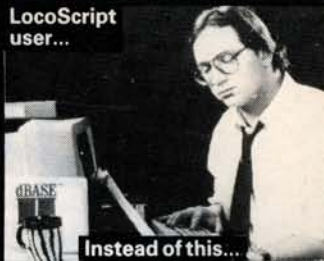
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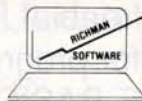
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E BY GUM

Another Public Domain freebie! Frank Peters reveals an additive for programming gourmets – E-BASIC

BASIC-E started life at about the same time as CP/M itself. It was back in 1976 at the Naval Postgraduate School in Monterey, California that it started its embryonic stages as a simple to use but powerful language for the small memory micro-computers that were emerging. In fact the same team at the school were responsible for large sections of CP/M as well.

```

A)ERUN example
BASIC-E INTERPRETER - VER 2.2

1 41421
2 73205
3
4 23607
5 44949
6 54575
7 82043
8
9
10 16228
11 31652
12 4641
13 60555
14 74173
15 87298
16 4

```

```

A)KBASIC example
BASIC-E COMPILER VER 2.1

1 rem A very difficult program!
2 for the.number.squared = 1 to 16
3   the.number.square.rooted=SQR(the.number.squared)
4   print the.number.squared,the.number.square.rooted
5 next the.number.squared
6 end
7
8 ERRORS DETECTED

```

▲ E-BASIC's compiler and interpreter in action

The reason for all this involvement was due to the guiding hand of Gary Kindall, who wrote CP/M whilst working for INTEL and at the school as a Professor. The idea of BASIC-E was for it to work well in 16k machines which were the tops then. It worked well in this amount of RAM as the Basic implementation was not as it is now, in one all encompassing package, with lots of RAM to run in. Space was at a premium, so the program was split into two

compiler or assembler as is associated with languages such as C, Pascal or Fortran.

It was written whilst Kindall (and one of his pupils, Gordon Eubanks) were at school and therefore it was released into the Public Domain, as is a large proportion of all school computer work in the States. Another version, CBASIC, was written by the same team, but Gordon was now working in the US Navy. In between times at sea, he would market the new CBASIC, so that version was never actually released for free.

But the only big differences were corrections to BASIC-E's inability to handle chaining of programs and direct calls to the system's machine code it would be operating on, like the PEEK, POKE and USR function in many other BASICS. Port address calls are supported in BASIC-E, i.e. INP and OUT.

BASIC-E can handle both sequential and random access files, in two ways. The terms that E-BASIC use are 'blocked' or 'unblocked' files. Blocked files are files that use records of known length. These blocked files can be read either sequentially or randomly whereas unblocked files must only be read sequentially.

E numbers

One of the features of BASIC-E is the way in which line numbers are handled. Lines can be unnumbered if desired and the numbers do not need to follow sequentially. Therefore the source code (generated on a simple editor like VDO) can begin to look like any other high level language with logical flowing indents and randomly numbered lines.

These line labels still have to be numbered but can be any number up to 31 digits long. The ease of being able to use indents really helps debugging of nested loops. For example, it's obvious if there are any NEXTs missing because the indenting of each subsequent loop should move the corresponding FOR and NEXT across the screen together. If the FOR and NEXT are not placed above one another then something has gone wrong.

BASIC-E will compute all numbers internally as binary floating point and to approximately seven significant decimal places, and the range of numbers possible are 2.7E-39 to 3.6E38. It is because of all this internal number crunching to provide this high level of accuracy that the processor is kept very busy at times – thus making it rather slow. It is by no means the fastest of BASICs around, but it is difficult to beat for robustness and accuracy.

What you get

BASIC-E uses the commands – ABS, ASC, ATN, CHR\$, CLOSE, COS, COSH, DATA, DEF, DIM, END, FILE, FOR, FRE, FN, GOSUB, GOTO, IF, IFEND, INP, INPUT, INT, LEFT\$, LEN, LET, LOG, MID\$, ON, NEXT, OUT, POS, PRINT, RANDOMISE, READ, REM, RESTORE, RETURN, RIGHT\$, RND, SGN, SIN, SINH, STR\$, SQR, TAB, STEP, STOP, TAN, THEN, TO, VAL.

There are also the following expressions, (in logical hierarchy order): () ^ * / + - < > = > = > = < < > EQ GE GT LE LT NE NOT AND OR XOR.

Variable and constant names can be of any

length, although only the first 31 characters are used. When compiling the source .BAS file, the compiler will tell you about any syntax errors, and any that are not reported will not lock up the system or anything drastic. The program will simply not do what you had intended it to do. There are 26 error types ranging from disc errors while running the compiler to the normal syntax errors like FOR and NEXT identifiers not matching. When the program is running there are a further 22 error types, mainly dealing with file and record access errors.

distinct halves. The first half was a parser to check for any syntax errors generated in the source code itself and generated (or compiled) into a 'halfway house' binary file called an intermediate file, designated .INT. This .INT file was then used by the second 'run-time' program which then ran the program. It did, in its own way, compile the source code into a file of smaller size which was subsequently interpreted by the second program, but it was not a real

Where to go

Members of PD SIG can find the files required to run BASIC-E on the following US libraries, USUG lib. vol 29 and 30, USUG lib. vol 5, loads of games are in USUG vols 3, 5, 13, 20 and 28, and copies of the original User manual for BASIC-E and a working copy of BASIC-E are believed to be available from ComCen Microcomputers Ltd., 45-46, Wychtree Street, Morrison, Swansea. SA6 8EX. You can also, of course, obtain BASIC-E from any good Public Domain BB if you have access to a modem.

If you are interested in getting hold of Public Domain software, there are three sources which might interest you. The CP/M User Group publishes a vast software library, though not all of it is of interest to PCW users. There is a subscription and copying fee per disc. Details from The Secretary, CP/M User Group, 72 Mill Road, Hawley, Dartford, Kent DA2 7RZ. Please enclose a large SAE.

PD Software have a large range of Public Domain programs, for CP/M and other operating systems, and again make charges for membership and copying. Contact them at PD Software, Winscombe House, Beacon Road, Crowborough, East Sussex TN6 1UL.

If you have a modem, you can download from two bulletin boards (among others). The numbers are 0462 700893, active from 10pm to 8 am each night, and 0902 788683, from 5.30 to 8.00 each morning and evening.

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Fleeting glimpses

Fleet Street Editor has its faults (what program hasn't?) but there are ways to get round some of the problems which may occur.

1. When printing on single A4 sheets the last lines of the page are consistently missed out. There are three ways round this. You can either select 'other' when the program asks you if you're using 'PCW or other printer' and then select number of lines (per inch) as somewhere between 20 and 23 – the result will fit on the page but may be a bit squashed.

Or you can prepare a page with a blank bottom inch or so – it'll still be necessary to feed in a second sheet to reset the printer, and don't use 'reset' on the printer controls or else you will crash with an 'LST off line' error message.

The best solution is to get true A4 continuous stationery.

2. If you wish to box a graphic and a caption, you'll find that the box will go round the graphic or the caption, but not both. To overcome this, put the box in before the graphic and the caption are inserted.

3. When scaling a graphic it is difficult to keep the original aspect ratio. However, when the box is drawn round the graphic, if you hold a plastic ruler against the screen diagonally from corner to corner, and keep the corners on the ruler edge as the box is enlarged or reduced, the graphic comes out perfectly.

4. Because FSE files take up

so much space in the M drive, you have to erase all files there with `era m:*.*` before running or it'll crash.

5. When changing fonts or type sizes make sure the cursor is not above the text already on the page, or it will be affected by the change. If you have tight limits around the original text and the type size increases, a lot of the text will disappear. The problem is that if you change back the text may still not fit in.

6. Owners of the 8000 Plus subscriber's disc can use Dr Logo graphics in FSE by converting them to Electric Studio .ART files via the program LOGOPEN.BAS. These work directly in FSE through the 'graphics prep' routine.

If it crashes in some other situation, you just have to re-boot and start again!

David Solomon
Southampton



Join the elite

One of the few quibbles with Protex is that the default size of text is pica (10 pt) rather than elite (12 pt) as in LocoScript. Changing the program to use elite as the standard font is, however, quite straightforward.

Protex's command mode type `SETPRINT` after the `a>` prompt and select option 6 'Load Printer Driver'. You should see the filename `PCW.PTR` appear on the screen. Press [RETURN] to load this and return to the Setprint menu. Choose option 3 'Set Printer Control Codes'.

To get condensed, bold etc in a Protex file, you use embedded commands consisting of [ALT] X and a letter – [ALT] XB sets bold, [ALT] XC condensed print, and so on. You use the same code to switch the effect off again. These codes give the printer a certain sequences of characters, listed on pages 130-5 of the CP/M manual. However in SETPRINT you can change the sequences that these letters return.

You'll see the sign @ and letters a to z listed together with the codes they return. You can move vertically or horizontally to different letters with the cursor keys, and when on the required key pressing [RETURN] will allow you to edit the code for that letter. Press [STOP] when you are finished with that letter. The current codes for the letter you're on are shown on two lines at the bottom, for example if you move the cursor on to 'i', the two lines read 'i on 27 4' and 'i off 27 5'. In other words [ALT] XI will send the message 27 4 to the printer, which makes it print italics,

Set printer control codes			
Numeric Decimal			
Reset printer @ on	Italics i on off	Subscript r s on off	
Bold a b on off	Enlarged j k l on off	Superscript t on off	
Condensed c on off	Normal (Pica) m on	Underline u on off	
Double-strike d on off	Proportional n on		
Elite e on	NLQ o p on off		
Font change 1 f g			
Font change 2 h			
on : 27 112 1			
off : 27 112 0 27 77			

First make sure you have the files `CONFIG.COM`, `SETPRINT.COM` and `PCW.PTR`. In

and 27 5, will make it return to normal.

The letters you want to edit are @, c and p. Change '@ on' from 27 64 to 27 64 27 77, 'c off' to 27 77; and then 'p off' to 27 112 0 27 77.

Press [STOP] to get back to the main menu and save the printer driver (option 7). When you get back to Protex (option 0) you'll find your documents print out in elite text.

If you don't want to tamper with the `PCW.PTR` why not save this file as `ELITE.PTR` and have that loaded as default using `CONFIG.COM` and option 7 – Set Printer Driver Options.

specified name and address from a data file (called *addr*) and prints it out.

```
>zm (zero all margins)
>sm (reset side margin to 20)
>pl (set page length to 15)
>iu (if 'find' not yet used)
>av "Enter name to find:"
find (ask for name to find)
>ei (end conditional if 'iu')
>df addr (data file to open and search)
>rv name
ad1, ad2, ad3, ad4, ad5, dummy
(read variables)
>sk find notin name (find
name not in dataname, next)
>av "Print for <name>?" yn
(if found ask whether to print)
>sk "y" notin yn (unless 'Y' is
chosen go to next)
<name>
<ad1>
<ad2>
<ad3>
<ad4>
<ad5>
>if "Y" in yn (if printed, then) *
>cf (close file) *
>ei (end of 'if') *
>pa (force new page) *
If all occurrences are to be
printed, remove the lines marked
with an asterisk. Insert 'CP OFF'
(continuous paper off) at start if you
want to use single sheet paper.
```

To use merely enter *print*
given *addr*, you'll be asked for the
name to find, and when found it will
print the address out if required.

David Foster
Crook, Cumbria
 (Author of Protext manual)

References required

Readers using LocoScript 2's awesome line-up of foreign characters and symbols may find this ready reference handy.
Bertrand Whitehead
Buckingham

LOCOSCRIPT 2 CHARACTERS

		[SHIFT]
	1 2 3 4 5 6 7 8 9 0 - =	! " £ \$ % ' & * () _ +
[EXTRA]	0 0 0 0 0 0 0 0 0 0 < >	0 0 0 0 0 0 0 0 0 0 < >
[ALT]	f " „ „ R ' „ 0 - †	! " £ \$ % ' & * () _ +
[ALT + f3]	1 2 3 4 5 6 7 8 9 0 - =	! " £ \$ % ' & * () _ +
[ALT + f5]	1 2 3 4 5 6 7 8 9 0 r ь	! " £ \$ % ' & * () _ +
[ALT + f7]	1 2 3 4 5 6 7 8 9 0 n ь	! " £ \$ % ' & * () _ +
	q w e r t y u i o p []	Q W E R T Y U I O P { }
[EXTRA]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f3]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f5]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f7]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
	a s d f g h j k l ; ' & #	A S D F G H J K L : < >
[EXTRA]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f3]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f5]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f7]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
	z x c v b n m , . / %	Z X C V B N M , . ? @
[EXTRA]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f3]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f5]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „
[ALT + f7]	„ „ „ „ „ „ „ „ „ „ „ „	„ „ „ „ „ „ „ „ „ „ „ „

Magic spell

If the 8000 Plus Subscriber's Disc with Prospell doesn't work directly with LocoScript 2 documents, first make an ASCII file of the document to be checked with f1=Actions. Alter the 'NEW NAME' to CHECK.BAS and make the destination group name that of group 0.

Remove the disc, insert the CP/M disc, and press [SHIFT][EXTRA][EXIT]. At the A> prompt replace the CP/M disc with the Prospell disc and type PS [RETURN]. Remove the Prospell disc, insert your document disc and when prompted enter the filename to be checked as CHECK.BAS.

After the check, remove the document disc, insert the Loco 2 Start of Day disc and press [SHIFT][EXTRA][EXIT]. Replace this disc with your document disc. CREATE a new document. Press f1=Actions and choose "Insert text". Select CHECK.BAS as the file to be inserted and [ENTER].

You've lost all your headers and

footers and all those underlinings, fancy point sizes and italics and so on, so you'll have to replace the former under f1=Actions (Document Setup) and the latter all by hand, unfortunately.

There may be a little reformatting to do but otherwise your document is now spell-checked.

John Ashfield
Honiton, Devon

Supersub

Those who often use footnote numbers or who work on scientific papers which involve chemical formulae may be disappointed to find that superscripts and subscripts cannot print out in high quality.

A typical footnote before using bold sub and superscripts...▼

³⁵C₂H₅OH or ethyl alcohol

...and after.▼

³⁵C₂H₅OH or ethyl alcohol

Logo rhythms

The booklet with 8000 Plus subscriber's disc has no instructions on how to use the LOGO programs (all the listings whose filenames end in .LOG). To use a LOGO program, run CP/M, and at the A> prompt insert side 4 of your systems disc and type LOGO. After a few seconds the screen clears and you see a ? prompt.

However if they are printed in bold instead the result is virtually indistinguishable from NLQ.
Helen Appleton
Nottingham

Insert the subscriber disc and type load "spiral" (or whatever the program is). Up will come the messages

spiral defined
nextone defined
star defined
square defined

By loading the program you have told LOGO how to do these procedures, which you call up by typing the name of the procedure, with any other information if required. For example, to draw a square with sides 40 units long, type square 40.

To go back to CP/M, type bye. LOGO is described in detail in the last section of the PCW manual.

Many of the commentaries on the BASIC programs refer to lines in the listings – a bit confusing as the listings themselves aren't in the booklet. But you can get a printout of the listing by typing LLIST "filename" [RETURN].

R B Green
Welwyn Garden City, and others.



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THE GOOD SOFTWARE FILE

These pages provide a comprehensive guide to the Amstrad PCW software. Published in three monthly parts, this time it's the turn of Spreadsheets, Games and Graphics to face the ultimate test. We've set out to cover every piece of software we could lay our hands on, and to give you enough information to decide whether they are suitable for you.

Any software not listed here has either not been reviewed by us, or has been left out to make space for better programs. As well as a brief summary of what they do, the main Plus and Minus points for each program are listed - Pluses have a ☐ by them, Minuses a ☐. Those we think are particularly noteworthy have a corner flash ... have fun window shopping!

SPREADSHEETS

If a database replaces an address book, then a spreadsheet replaces the back of an old envelope. It is really an electronic piece of paper which allows you to jot down numbers, juggle them around and analyse the cost benefits of a situation. Vital for businesses, spreadsheets can be useful to home users too: if you want a bank loan you will find that showing your bank manager a spreadsheet printout of your living expenses answers a lot of questions!

A typical spreadsheet has a grid of rows and columns. This grid forms a screenful of cells identified by their column and row numbers, e.g. A3, K36 etc. Each cell can contain a simple number, some text to make the page easier to read, or a formula telling the spreadsheet to work out a number using values from elsewhere. The power of spreadsheets is in this last category, formulae. You can make a cell's value depend on the value of cells above it, or to the left of it, and this value is then automatically updated if you make any changes to the other cells.

So how do you choose between the various spreadsheets? One difference is sheet size, i.e. the number of cells you are allowed to work with. You'll need a few hundred for home use, and 1000 or more for business use. Another area is the range of formulae that you can use - all spreadsheets allow simple column and row totalling, but with some you can get complex statistical analyses too. As with all software, think very carefully what you will need before choosing.

SuperCalc 2

£49.95 • Amsoft/Sorcim • 091 567 3395

Best Seller!

The best selling spreadsheet, officially endorsed by Amstrad. SuperCalc 2 is broadly similar to ScratchPad Plus, and at least as effective, but it has a smaller workspace and is less flexible about the allowed spreadsheet dimensions. One big bonus is that you can store sequences of commands in files for repetitive calculations.

PLUS • MINUS

- ☐ Excellent manual - specific sections for beginners and experts.
- ☐ Sequences of commands can be stored and later run from files
- ☐ "Data Interchanger" allows you to transfer spreadsheet data to other applications
- ☐ Comprehensive range of calculation functions available
- ☐ Screen can be split into 2 windows
- ☒ Spreadsheet is limited by memory size
- ☒ No graphical output facilities

Cracker 2

£49.00 • Software Tech/Newstar • 0277 22057

Boffin's Best Buy

A spreadsheet designed with advanced calculating power firmly in mind, including statistical functions. The screen layout is totally defined by the user, and cell value calculations can almost be full programs, e.g. DO ... WHILE. It might prove too complex if all you want is simple spreadsheet operations. The screen messages are very helpful though.

PLUS • MINUS

- ☐ Can cope with very complex formulae
- ☐ Flexible screen format defined by the user
- ☐ On-screen prompts are very clear
- ☐ Graphs/charts can be automatically produced
- ☒ Documentation is large, but obscure and confusing
- ☒ You've got to do a lot of work just to get started
- ☒ Very complex for quick, simple applications
- ☒ Needs some programming skills to get the most out of it
- ☒ Free workspace is on the small side (17K) although memory is used efficiently

ScratchPad Plus

£59.99 • Caxton • 01-251 9494

If you want a traditional spreadsheet, ScratchPad Plus has most of the features you could want and more. Using "virtual memory" means you can have a huge data area, and the screen can be divided into windows to view different parts at the same time. Many of the commands bear a remarkable similarity to the big business spreadsheet Lotus 1-2-3.

PLUS • MINUS

- ☐ Virtual memory means you can have large spreadsheets
- ☐ Multiple windows mean you can see all the parts you want at once
- ☐ Good control over formatting
- ☐ Vast range of calculations possible
- ☒ Documentation sorely needs an index
- ☒ Screen prompts are cryptic; you need the manual to hand
- ☒ No provision for automatic execution from files
- ☒ No graphical output facilities

First Calc

£29.95 • Minerva Systems • 0392 37756

Good value!

Touted as a quick and simple to use program for the beginner, this is nevertheless quite a powerful spreadsheet, with a large capacity, ability to replicate formulae, export etc. Really it's not vastly more user-friendly than the rest but a good value package all the same.

PLUS • MINUS

- ☐ A lot of program for the money
- ☐ Good tutorials with demo files
- ☐ Simple to use but reasonably sophisticated
- ☒ Not much easier to use than more powerful packages

PlannerCalc

£39.00 • Comshare/NewStar • 0277 220573

PlannerCalc does for spreadsheets what Cobol does for programming languages. It is verbose and inflexible to use, but this does make you think very carefully about your application before entering data. Commands are all entered by pseudo-English phrases, rather than terse abbreviations. All work is done on a command line, not by moving the cursor around the screen.

PLUS • MINUS

- ☐ English-style commands are understandable by non-experts
- ☐ On-screen help available at any point
- ☐ Documentation is fairly well indexed
- ☒ Verbose commands are awkward to type in
- ☒ Editing and inserting data is restricted
- ☒ Grouping cells into ranges for copying etc. is difficult
- ☒ Control of sheet printouts is limited

SPREADSHEETS • GRAPHICS

Job Estimating • Product Costing £49.95 each • Cornix Software • 0462 682989

Both these programs aim to provide help to small businesses by keeping track of costs. You break down the job/product you are doing into small units and specify the cost of each basic component. The programs then analyse your profit margins and can produce printed quotes to convince customers you are superb value.

PLUSES • MINUSES

- Well written manual aimed at businessmen not programmers
- Simple and robust to use
- Changes in material cost instantly reflected in all quotes
- Job Estimating page headers make a neat way of doing on-the-spot quotes
- Can't add new components to a description after it has been set up
- Cost of one component can't be dependent on another
- Inflexible design of printed quotes might be inconvenient
- Generally only suited to smallish businesses

Pocket CalcStar **Good value!** £39.95 • Davis Rubin Associates • 0386 841181

A fairly traditional spreadsheet but with a few surprising features. It's not particularly large or fast, but is attractively priced and has all the basic functions. Can form part of an integrated system with the other Pocket products. A safe buy for the first-time user, and the documentation is up to the usual high MicroPro standards.

PLUSES • MINUSES

- Good range of mathematical calculation functions.
- Good documentation — sections for beginners and reference.
- You can preset a course of cells to visit, for form filling.
- Can be integrated with other Pocket products, eg ReportStar
- Screen size is very small — at most 15 spreadsheet rows, and normally only 10.
- No auto-recalculate facility
- It's not very fast
- You can't type heading text etc. over adjacent columns

Landscape £19.95 • Systembuild • 0778 344388

This is a utility to print out ASCII files rotated on the printer page, so as to make full use of the extra page width. It provides page dimensions of up to 255x96 characters, in a fairly condensed typeface. Runs as a BASIC program.

PLUSES • MINUSES

- Readable, condensed draft quality typeface
- Simple and effective to use
- It's an undesirable hassle to have to run it from BASIC
- It's simple, but really needs more than its 200 words of documentation.
- No choice of fonts or text quality.

MasterPlanner £69.95 • Comshare/NewStar • 0277 220573

MasterPlanner is essentially a souped up version of PlannerCalc. For double the money, what you get is a slicker manual, better formatting options, a bigger workspace and the same basic inflexibility. Files from PlannerCalc can be used with MasterPlanner.

PLUSES • MINUSES

- Same pluses as PlannerCalc
- Spreadsheet stored in virtual memory, i.e. can be as big as your disk
- Can read files from PlannerCalc
- Same minuses as PlannerCalc
- Apart from size and speed, no real extra power over PlannerCalc

Multiplan £69.99 • MicroSoft/NewStar • 0277 220573

A well established package with all the features you would expect of a reasonable spreadsheet — it just lacks that something extra that recommends some of the newer ones. No support for command reading from files, or for "virtual memory". Adequate, but there are better for the money. And the manual can kill at twenty paces!

PLUSES • MINUSES

- Functions easily entered by menu selection
- Full range of features and functions
- On-screen help text is available as you go
- Sheets can be interlinked and data transferred between them
- You need a computer science degree to understand the manual
- No support for automatic execution
- Workspace is limited by CP/M memory space
- Printer output a bit cumbersome

Rotate £24.95 • Proteus Computing • 01-748 2302

Rotate is a simple utility program to print out text files rotated through 90 degrees on the paper. This gives you more columns per page which will be needed for some programs, like large spreadsheets.

PLUSES • MINUSES

- Simple menu-driven program does just what it says
- Choice of four print fonts, which can be used to print unrotated files too
- The quality is nothing like NLQ (e.g. the ordinary "high quality" print option)
- Only prints plain text, no subscripts, underlining etc.
- No specific support for non-Amstrad printers

moving sprites around. The programs are written in assembler, with the source code provided if you want to see how to program them for yourself. Great for programmers.

PLUSES • MINUSES

- Wide range of useful functions
- Code can be used from BASIC, machine code, or any language
- The assembler source code is supplied
- Inexpensive
- Good manual
- A bit long-winded to use from BASIC
- No way of loading just the routines you want

VIDI PCW £99.95 • Rombo Productions • 0506 39046

A very similar package to the Electric Studio digitiser, not much to choose between the two so it depends on the other packages you have as to which is one to buy. Rombo's works with the Fleet Street Editor, Electric Studio's with Newsdesk International. Can make small changes to your digitised picture pixel-by-pixel, though it's fiddly, and can insert text in a variety of fonts and sizes.

PLUSES • MINUSES

- Text can be inserted from within the program
- 16 levels of shading
- Can print images to screen in defined order and time apart — great for presentations
- Facility for pixel by pixel changes
- Unhelpful manual

Graphics Operating System £69.95 • Mirrorsoft • 01-377 4645

This is a library of machine code routines for programmers to use. It is essentially the guts behind Fleet Street Editor Plus, and provides you with a set of routines to draw menus, read a mouse, fill areas and so on.

PLUSES • MINUSES

- Good range of general purpose graphics functions
- Routines can be called from most programming languages
- Functions to drive mice and menus are provided
- 'Fill' command can be undone
- Consistently designed and documented calling mechanisms
- Manual is weak on tutorial content
- Only leaves you with 17k of workspace in BASIC
- 'Fill' command is slow
- Lots of PEEKs and POKEs make it longwinded
- Priced for company programmers not home users

Art with Lightpen or Mouse **Great fun!** £79.95 or £129.95 • Electric Studio • 0462 675666

Ostensibly you are buying a piece of hardware — a light pen, or a mouse, that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

PLUSES • MINUSES

- Light pen hardware is a simple module that slots onto the back of the PCW
- You can draw by freehand pen control or with cursor keys for accuracy
- Menu selections are easy to understand
- Full range of functions for area filling, shading and spraying
- Blocks of pixels can be moved and copied
- You would need to know your way around CP/M to use the lightpen itself with other graphics programs
- Items on the screen are purely pixels, not distinct elements like in DR Draw or Microdraft
- No positioning of items by numeric co-ordinates for accuracy.

Video Digitiser £99.95 • Electric Studio • 0462 675666

A black box which plugs onto the expansion port at the back of the PCW, into which you put a video camera or video recorder. It will then 'digitise' the picture it receives and display it on the screen. You can fine tune the thresholds for ideal contrast, and print it out to the PCW printer. Pictures can be saved and edited with the Electric Studio light pen or mouse. Nice, but expensive by the time you've bought a light pen/mouse too.

PLUSES • MINUSES

- Automatically picks a good contrast level for the display
- Can store pictures for the Light Pen or Mouse to work on later
- Simple to set up
- Range of different operating styles for high quality
- Can print out on a full A4 page
- Can't take simple TV signals — video only
- Manual isn't very helpful if you need to manually tune the thresholds

GRAPHICS

If you want to embellish your text with diagrams and drawings you can use a graphics package to create and store them on disc, to be amended, adjusted or printed out at will. There are three main types of graphics package: art, technical drawing and graph plotting programs. In art packages the emphasis is on designs and pictures, with freehand drawing facilities, a selection of pretty text fonts and a variety of patterns to fill areas with. Technical drawing packages concentrate on shapes, such as squares and polygons, lines and labels. Finally graph plotters will take your data and turn them into bar charts, pie charts and so on.

DR Draw £49.95 • Digital Research • 0635 35304

This is a drawing utility, which allows you to compose designs from circles, polygons, lines and a wide variety of shadings and styles of text. It's very cumbersome to use unless you also have a light pen or a mouse, and overall not very friendly. Not recommended unless you're ready for some hard work.

PLUSES • MINUSES

- When pushed, it can produce very neat diagrams, even on the standard PCW printer
- Good, professional manual (although no mention of Amstrad specifics)

- You need CP/M expertise to get it installed and going
- Painfully slow screen handling
- Difficult to use by keyboard alone — you must buy a lightpen or mouse

DR Graph £49.95 • Digital Research • 0635 35304

A rather specialised package, specifically for presenting complex data in graph form. Can produce line graphs, bar charts, piecharts, scatter plots, text, and compositions of any mixture of these. Very flexible, and easily operated by menus, but really needs a graph plotter to do it justice.

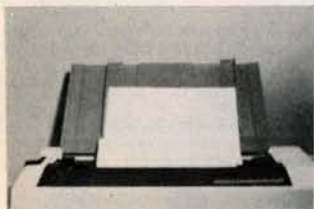
PLUSES • MINUSES

- Can read data from certain spreadsheet packages (e.g. SuperCalc)
- Extensive annotation and text placing is possible
- Good, professional manual (although no mention of Amstrad specifics)
- Supports a colour graph plotter as an output device
- You need CP/M expertise to get it installed and going
- There is no way of joining points by a smoothed curve

Graphics and Everything **Great for hackers!** £19.95 • CP Software • 099382 3463

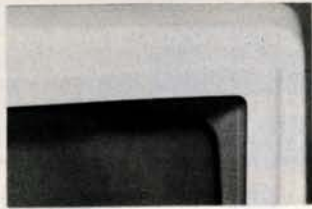
The full title is 'All you ever wanted to know about graphics, the universe and everything on PCW 8256/8512 ... but were afraid to ask.' Phew. A wide range of little programs to do graphic things on the PCW like smooth scrolling, defining windows,

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THE GOOD SOFTWARE FILE

GRAPHICS • GAMES

ExBasic **Great fun!** £11.45 • Nabitchi Computing • 051-708 8775

A utility program which augments Mallard BASIC's commands; allowing you to use quite sophisticated graphics functions. You can draw or erase lines, circles or dots, save and load screenshots of data, pause, beep ... all with commands like PRINT "DRAW";100,200;. Guaranteed no machine code or POKEs needed!

PLUSES • MINUSES

- All functions done by simple BASIC PRINT statements
- No machine code knowledge needed
- Good range of simple drawing commands available
- Can save and load images once you've got them right
- Very cheap!
- Not quite fast enough for proper animations/games programs

Microdraft **Specialist best buy!** £79.95 • Timatic Systems Ltd • 0329 226727

This package is essentially an electronic drafting board. Lines, circles, polygons, text and so on can be accurately placed on a page, and then scaled and rotated en masse. Microdraft is not an art package, so there are no freehand sketching facilities. Overall an excellent package, comprehensively designed and easy to use.

PLUSES • MINUSES

- Elements can be positioned very accurately (better than the PCW screen resolution)
- Discrete elements can be grouped into blocks and manipulated
- Well written and comprehensive manual (except it refers to the CPC6128 keyboard)
- Zoom feature allows you to work on fine detail
- Supports output on proper graphic plotters
- No "undo" facility
- Hard copy output is very slow

Draughtsman £29.95 • EG Computer Graphics • 0572 832940

A package which combines art and technical features to give a quick and simple way to produce technical drawings. You can define symbols for regular use and have a wide variety of line types and hatching patterns. No freehand drawing facilities though and no exotic functions like moving objects and stretching or compressing things.

PLUSES • MINUSES

- Easy to use
- Variety of line styles and fill patterns
- Cheap
- No freehand drawing
- Can't move or stretch areas or objects

Grafpad with Powercad **Powerful!** £149.50 • Grafsales • 0923 43942

A system allowing both freehand and technical design via a special pen. This works from a 'digitising tablet' which takes over the functions of the keyboard and fits into the expansion port at the back of the PCW. Wide range of features including object move, ability to define symbols for future use and sophisticated zoom feature for line adjustments. Its potential is enormous though at the price may be limited to specialist drawing office applications.

PLUSES • MINUSES

- Combines best of freehand and technical drawing facilities
- Zoom feature allows drawing in of fine details
- Accurate
- Sophisticated, professional package
- Expensive

Bridge Player III £19.95 • CP Software • 099382 3463

A few of the bids it makes seem a little strange, but as bridge programs on computers go this is pretty good. Claims not to cheat, even though it deals!

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

3D Clock Chess £15.95 • CP Software • 099382 3463

The '3D' refers to a three dimensional display of a chess clock on the screen. Pretty, but a bit of a gimmick. You can set time limits for moves.

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Colossus Chess 4.0 £15.95 • CDS Software • 0302 21134

A very strong chess game which manages to use the time which you spend thinking to plan its strategy. Bags of features, including blindfold games.

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Cyrus II Chess **Great graphics!** £15.95 • Amsoft • 0277 230222

Chess game with a stunningly detailed 3-D display. The play is quite strong, with several handy features like allowing you to take back a move.

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

GAMES

No one could have predicted the remarkable way in which games software has taken off on the PCWs. On the face of it, the machine is not ideally built for games, but software houses have proved that impressive results can be obtained on it, and not just with text-based games – your 8000 is capable of amazing graphics! The entertainment software available divides into two main categories:

ADVENTURES are probably the most common on the PCW. These are defined (by us anyway) as games controlled by typed keyboard commands. The program describes a scenario and you, the player have to respond by typing things like: GET SWORD or POLISH ORB WITH THE VELVET CLOTH. These programs vary greatly in their ability to recognise and respond to your instructions, and at their best seem unbelievably intelligent. Some of them include pictures of the various game locations, but these tend to play little part in actual game-play. We rate these by Atmosphere, Interaction, Challenge and Value.

In **ARCADE GAMES**, an animated character is moved onscreen by direct keyboard (or joystick) control. You press a key for 'Left' and the character goes left or shoots something. We rate these by Graphics, Addictiveness, Lasting Appeal and Value.

Batman **Great fun** £14.95 • Ocean Software • 061-832 6633

3-D animated graphics as you guide Batman around Gotham City, looking for hidden parts of the Batcraft. Good range of hazards, and even a tune!

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Blackstar £14.95 • CRL • 01-533 2918

A traditional text adventure with large playing area. You explore Castle Blackstar and its mysterious caverns in search of a power orb.

ATMOSPHERE	■■■■■
INTERACTION	■■■■■
CHALLENGE	■■■■■
VALUE VERDICT	■■■■■

Bounder **Full of bounce!** £13.95 • Gremlin Graphics • 0742 753423

A graphics bouncing-ball game. You have to direct the ball over a treacherous network of squares & hexagons. Persevere – or use the cheat mode!

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Distractions **Good value!** £19.95 • Design Design

Three futuristic arcade-type games in one combine to form a basic but good value disc. Available from 2, South Block, Riverside Way, Sawbridgeworth.

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Fairlight £14.95 • The Edge • 01-831 1801

Fine 3-D graphic adventure with similar screen display to Batman. You explore a castle prison, battle with numerous enemies and solve puzzles.

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Guild of Thieves **Sophisticated** £24.95 • Rainbird • 01-240 8838

To join the select Guild of Thieves in Kerovnia, you first have to show your worth by fleeing an island of all its treasures. An excellent adventure!

ATMOSPHERE	■■■■■
INTERACTION	■■■■■
CHALLENGE	■■■■■
VALUE VERDICT	■■■■■

The Archers **Simple and humorous** £13.00 • Mosaic/WHS Distributors • 0533 551196

By answering a series of multiple choice questions, you decide the fate of your favourite Archers characters. If the ratings drop, you get the boot.

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Brian Clough's Football Fortunes £17.95 • CDS • 0302 21134

A cross between Monopoly and Football Manager, combining board and PCW. Go for league and cup success – but keep the bank manager happy too!

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

Graham Gooch's Test Cricket £19.95 • Audiogenic • 0734 303663

A good cricket match simulation with animated graphics. You can select your own teams, control the speed of bowling and striking. For cricket fans.

GRAPHICS	■■■■■
ADDICTIVENESS	■■■■■
LASTING APPEAL	■■■■■
VALUE VERDICT	■■■■■

THE GOOD SOFTWARE FILE

GAMES

Head Over Heels

£14.95 • Ocean • 061 832 6633

Superlative!

A superlative, compulsive 3D arcade adventure where you control either Head or Heels. Escape from Castle Blacktooth and free the Empire's enslaved planets.

GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

Heathrow ATC/Southern Belle

£16.95 • Hewson

Realistic simulations - one as the Traffic Controller of the airport, the other on the footplate of a steam train. From 56b Milton Trading Estate, Abingdon, Oxford

GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

Hitch-Hikers' Guide

Hilarious! Superb!

£24.99 • Activision • 01-431 1101/2992

In many people's minds, the best adventure program ever written. Based on Douglas Adams' series, it is ingenious, hilarious and mind-boggling. A must!

ATMOSPHERE ■■■■■
INTERACTION ■■■■■
CHALLENGE ■■■■■
VALUE VERDICT ■■■■■

Hollywood Hijinx

£24.95 • Infocom/Activision • 01-431 1101

A good skit on Hollywood and its conventions. Find ten treasures hidden in Aunt Hildegard's beautiful mansion. Might not suit the British palate.

GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

Leaderboard

£19.99 • US Gold • 021-356 3388

For golfers!

A good golf simulation your shots can be affected by the wind and the slope and the screen shows your view of the hole from where the ball has landed.

GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

Leather Goddesses of Phobos

£24.95 • Activision • 01-431 1101/2992

Bawdy!

Lascivious, licentious and lewd -- definitely not for feminists! An excellent adventure game, spoofing both sci-fi and Soho. With 3D scratch'n'sniff card!

ATMOSPHERE ■■■■■
INTERACTION ■■■■■
CHALLENGE ■■■■■
VALUE VERDICT ■■■■■

Lord of the Rings

£19.95 • Melbourne House • 01-377 8411

Hobbit's Hobby!

Excellent adaptation of the Tolkien classic. You take the role of Frodo or one of his group, and rove through Middle Earth meeting balrogs, orcs, wargs and all.

ATMOSPHERE ■■■■■
INTERACTION ■■■■■
CHALLENGE ■■■■■
VALUE VERDICT ■■■■■

Moonmist

£24.95 • Infocom/Activision • 01-431 1101

An American Tourist's dream, set in a genuine haunted castle in Cornwall. A game which is strong on atmosphere and immensely playable.

ATMOSPHERE ■■■■■
INTERACTION ■■■■■
CHALLENGE ■■■■■
VALUE VERDICT ■■■■■

Nemesis

£15.95 • Advantage Software • 0844 52075

A package of four Arnold Blackwood adventure games. The attempts at humour are embarrassing, and the games are thin though well-designed.

ATMOSPHERE ■■■■■
INTERACTION ■■■■■
CHALLENGE ■■■■■
VALUE VERDICT ■■■■■

The Pawn

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Sophisticated!

An excellent adventure with 30 superb screen illustrations, zany characters and a host of baffling puzzles. Sure to keep you entranced for hours.

ATMOSPHERE ■■■■■
INTERACTION ■■■■■
CHALLENGE ■■■■■
VALUE VERDICT ■■■■■

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Plays a mean game

Excellent implementation of the famous game. 1 to 4 people can play the computer, which knows a fair few obscure words. Good graphical display.

GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

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CHALLENGE ■■■■■
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GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

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Surprisingly realistic simulation of both pool and snooker games. Allows for spin, side, strength of shot. Good value, despite all the balls being greens!

GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
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ADDICTIVENESS ■■■■■
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CHALLENGE ■■■■■
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INTERACTION ■■■■■
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GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

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GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

Trivial Pursuit

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GRAPHICS ■■■■■
ADDICTIVENESS ■■■■■
LASTING APPEAL ■■■■■
VALUE VERDICT ■■■■■

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ATMOSPHERE ■■■■■
INTERACTION ■■■■■
CHALLENGE ■■■■■
VALUE VERDICT ■■■■■

NEXT MONTH

The guide continues next month with the categories of WORD PROCESSORS (including spelling checkers and mail mergers), DESK TOP PUBLISHERS, UTILITIES and ACCOUNTS (including payrolls). The month after will cover DATABASES, COMMUNICATIONS, EDUCATIONAL PACKAGES and PROGRAMMING and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.50 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

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TIPOFFS

The collection: issues 1-6
Only £3.95!

Rumour has it there are still some unfortunate PCW owners out there who haven't yet discovered this remarkable TipOffs book. It's absolutely packed with goodies.

Not only does it contain the complete range of TipOffs published in the first six issues of 8000 Plus, there's also the series of (so we're told) outstanding tutorial articles on LocoScript and CP/M reprinted from those issues.

And to tie the whole package together is a comprehensive index, published here for the first time. So now at last you can turn instantly to the information you know we published somewhere, but can't remember where.

So many crucial TipOffs were covered in the first six issues of 8000 Plus, this compilation has become regarded as a really valuable reference book, especially as most of the issues the information is taken from are now, sadly, sold out.

The 8000 Plus TipOffs Collection is printed on crisp, high-quality paper with a glossy colour cover, and we think it deserves a permanent place next to your PCW.

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Much has already been written about **LocoScript 2**. It offers a number of powerful advantages over earlier versions, especially by making the handling of long documents much, much faster. Buy it from us and we'll throw in a

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Meanwhile **LocoMail** and **LocoSpell**, which normally cost £39.95 each, can add immense extra power to your machine, by allowing you to carry out mass mailings with each letter automatically personalised and through fast spell-checking of your documents (**LocoSpell** comes with two separate dictionaries, one of 17,000 words for super-fast checking, and one of 78,000 for super-thorough checking). By knocking £20 off the normal price, we're making these titles affordable by almost everyone.

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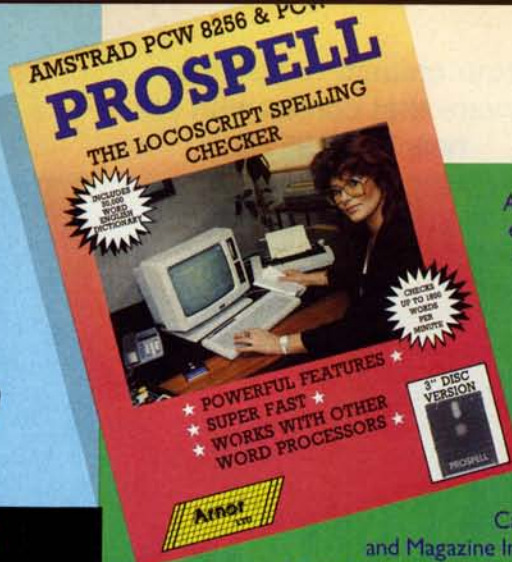
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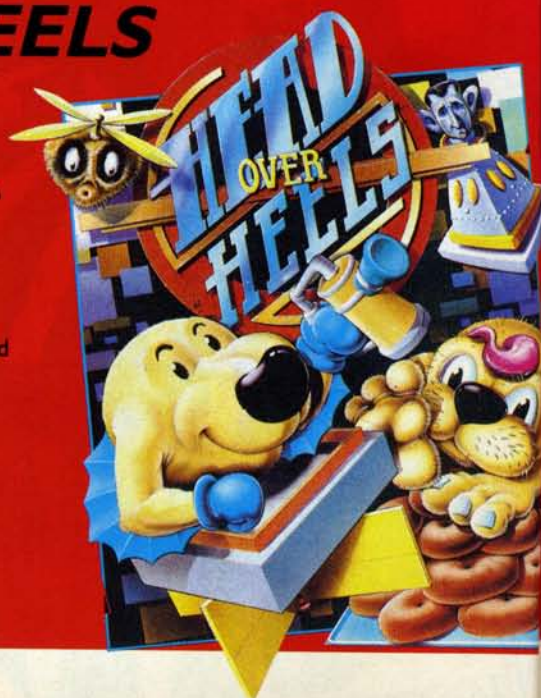
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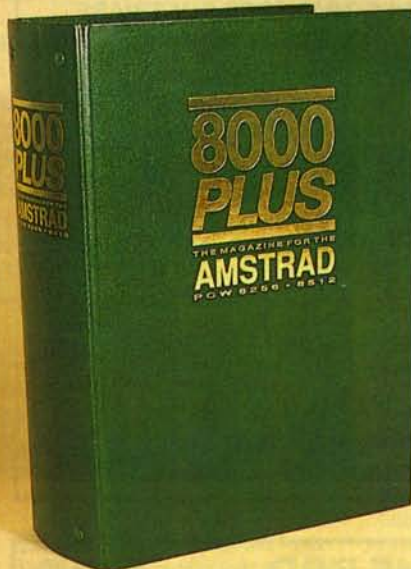
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POSTSCRIPT

An enclave of erudite epistles exhibited by an enigmatic Ed

Pocket Protext and Arnor C

I have just read your reviews of the above two programs in the September issue of 8000 PLUS and feel that a number of points might be worth mentioning.

Firstly, the usual disclaimers. I am a freelance author of the Protext manual and any comments which follow are mine and not those of Arnor Ltd. I was also involved in the production of the Arnor C manual.

The comparison of Hisoft C and Arnor C is not a fair comparison, to the extent that whereas Arnor C is a full implementation of the C language as defined by Kernighan and Ritchie, the Hisoft C is only a subset of C and an 'integer only' compiler. Trying to compile source code written for other compilers is a most frustrating experience with Hisoft, due to the fact that several features are handled in non-standard ways. That and the fact that floating point arithmetic is not supported, make its uses somewhat restricted.

Nowhere does the review mention the fact that different libraries are provided, nor which libraries were used for the tests. The different libraries are selected according to the number of facilities required by the program and this has a considerable effect on the size of object files, not to mention the speed of compilation.

A fairer comparison might have been to compare it with Mix C, which also supports floating point arithmetic, in which case the speed of compilation and execution and the size of object files would have been meaningful, with Arnor C tending to win on many points.

With regard to the Pocket Protext review, I was somewhat surprised, as I am sure were Arnor, to read about the reputed problems of using proportional printing with right justification turned on. I use it

After all our pleas for the last months we have finally been sent two holiday postcards! It's nice to know from Eric Houlder that it was 34° in France while we were shivering here, but Mr. Ritchie's card from Mallorca is disqualified on the grounds that it was posted in England. Meanwhile back in reality, the postbag is bulging again after the summer lull. Rogue suppliers, reviewers and products get their fair share of words, together with the usual *cries de cœur* and helpful comments.

To join in the fun, write to PostScript, 8000 Plus, 4 Queen Street, Bath BA1 1EJ - we'd love to hear from you on any subject.

all the time and have never had the problems you describe.

As the author of the manual, I was somewhat disappointed to see that you found the manual unfriendly, particularly in view of the fact that most of the reviews of the original Protext have commented favourable on the manual, but I accept that you cannot always please everyone all the time.

His comments about 'ambiguous filenames' are, I feel, a little unfair, in view of the fact that not only is the meaning described at the start of the appropriate section, but a number of examples of the use of the '*' and '?' wildcards are also!

I also cannot entirely agree with him about the problems of printing out complex documents. It is really a case of things being different from LocoScript in most cases and a case of learning how to use Protext. It cannot be that bad, as I am sure you would concede that the manual is well printed and fairly complex in its layout and typesets, yet this was photo typeset directly from printouts produced with Protext connected to a laser printer.

David Foster
Kendal, Cumbria

● First the humble pie: it was indeed a mistake on our part not to realise that Arnor

C has floating point arithmetic and Hisoft doesn't. Chalk up an extra point for Range of Features and Value Verdict, and accept our apologies (curiously Hisoft haven't complained). However, the presence or absence of floating point doesn't explain why it is still so much bulkier and slower than Hisoft, no matter what libraries it uses.

To Protext. The review was pretty positive overall, and the points you pick were fairly minor asides. Likes and dislikes of manuals are personal preferences, but we certainly stand by the criticism of Protext's printing facilities. If you type a paragraph and mix text pitches - 10, 12 and 17 point - the justification will go wrong. Also try centring a heading line of double width text and see what happens!

Birthday treat?

I am being given an Amstrad PC1512 for my 21st birthday. Until now I have typed out whatever it is I want to type and have to find someone to check it for spelling mistakes.

Now that I will be using the PC1512 I have decided to buy some kind of spelling checker software. The two main things I use our PCW 8256 for is for writing letters and college projects/reports. As I have no idea what software package would best suit my needs I am writing to ask if you would be able to help and perhaps

recommend a not too expensive package ie. under £100

Richard J. Hammer
Sevenoaks, Kent

● Wait! Stop! Don't do it! From what you say about your uses of a computer a PCW is a much much better buy than a PC 1512. Just think: suppose the new PCW9512 costs £499 plus VAT (the price hasn't been officially announced yet). That includes a daisywheel printer, a word processor and a spelling checker. Now suppose you buy the cheapest model PC also at £499 plus VAT. You also have to buy a printer - £200 more - and word processing software too. All in all, the PC setup will cost you around £250 more than the PCW, and you've got to learn a whole new system too. Buy a PCW, you know it makes sense.

Answerphone

Thank you for publishing my letter about the inadequacies of DIALUP in the August edition of 8000 PLUS. In fairness to PMS Communications I feel I should write and let you know that I have tried all the previous versions and have now received the fourth version of DIALUP v 2.2.1 and this works very well and lives up to the Company's claims for it.

It has been a frustrating time but throughout PMS have been very helpful and all new versions have been provided without charge and helpful advice has been willingly given.

F.R. Jones
Aylesbury, Bucks



"THAT WILL SHAKESPEARE'S REALLY CHURNING THE STUFF OUT THESE DAYS..."

The core of the matter

Happy First Birthday to 8000 PLUS and congratulations on your first successful year in print. I shall do my part as a well satisfied customer to try and make your next year at least as profitable. On page five of your September issue is one item of interest to me. Under the title 'Desktop Shuffle', you briefly describe your use of PCWs and Apple Macs. I would also like to know how to prepare my text to be transferred to a Mac for final and more complex page make-up work. Having always used Loco 1 and now 2, ASCII files are unknown to me. I have spoken to other writers with access to a Mac that I know would enjoy a feature on PCW and Mac relationship. The affair was bound to come out in the end anyway? Don't forget the juicy bits!

Martha Patrick
London S.E.12

● Since Macintoshes cost between £1,000 and £2,000 each we probably haven't got a very large Mac owning readership and can't really justify a whole feature on them. However, for your interest the answer is really very easy: you need to buy a serial interface for your PCW and a suitable connecting lead for the Mac (your Mac dealer should be able to sell you one). You will need some communications software on the Mac like MacTerminal (on ordinary Macs) or Red Ryder (on Mac SEs). You will have to make ASCII files of your LocoScript documents, but then you can use CPM's PIP to send them to the Mac down the wire. You can get by with using PIP in CPM as described in this month's PCW to Z88 connection in the portable computing feature, but if you buy some communications software (eg. PMS Dialup on the PCW) there are special file transfer functions which check the file for transmission errors as it is sent.

Mind-woggling behaviour

Being a Scout Leader, I was fascinated by your Morse Code program in the September edition of 8000 Plus, which will, you'll be delighted to hear, be of use with our high-tech minded Scouts I'm sure.

However, your strapline claims to 'sort out Boy Scouts and text files alike'. Text files may well need sorting out but I would have thought that such an up-to-date, forward-looking and dynamic magazine such as 8000 Plus would, when referring to a movement with more than 600,000 members in this country, have got the title correct!

The term 'Boy Scouts' was actually done away with in 1967 to get up-to-date and save annoying the 20 year-olds by calling them

86 8000 PLUS

Euromark mark 3

I write to ask if, through your column, I might apply to join Steven Blackwell's AEII club (Anti Euromark International Inc, or Limited, or whatever). I believe I am very well qualified, details are as follows.

On July 15th I telephoned Euromark to order a Steve Davis Snooker game. They accepted the order but declined payment by credit card because, they said, it takes too long to get the money credited. So, as asked, I put a cheque in the post the same day. Five weeks and three telephone calls later I am still waiting. So much for "Guaranteed next day delivery"!

It is interesting to note that your last two issues have not

carried their advert. I wonder why that is. Do you perhaps know something we poor innocents don't? Can you offer any help or comfort?

Norman Duffield
Norwich

● Euromark International, when challenged on this point, say that they are dropping their entire range of PCW products, presumably because there is not enough profit in the market for them. They claim they are fulfilling existing orders but this means making very small orders to their wholesalers, at low trade discounts, and so cannot afford the credit card companies commission charges and more.

Boys. A few years later, it served to acknowledge the fact that girls can be Members from the age of 15½ as Venture Scouts. (Upon reflection, it may be that your heading was indeed correct, and hinted that it was only the male Scouts that need sorting out, not the females...?)

As a matter of interest, Scouting magazine, the national journal of The Scout Association (circulation 40,000) is produced using two PCW 8256 machines and an 8512 - we have found that they have made our monthly task of creating and editing copy much easier than before we saw the light.

Therefore, when you next print a listing to show Cubs how to make their own woggles or a program for a game in which Scouts have to drag a willing old lady across a motorway, please get our name right - or we'll send a Colony of six-year-old Beaver Scouts round to 8000 Plus to sort the editorial staff out!

Dave Wood
News Editor, Scouting Magazine

● Not the Beaver Scouts ... I give in.

Reviews reviewed

Back in January issue of '8000 Plus', I note a letter from an aggrieved Software Firm, complaining of unfair reviews. There are, however, two sides to the story; readers expect fair reviews, and that means giving the bad points as well as the good ones. After all, once a consumer has purchased a piece of software, the producers seem to have no further interest in you. I often wonder how many readers, like myself, have written to Mr. Yates, of Ocean Software, receiving no

reply; I wonder if the story that Mr. Yates is the code name for the waste-paper basket is true?

Some time ago, for instance, I purchased Digital Research's CBASIC compiler, (which wasn't exactly cheap) but have been unsuccessful in using it for several reasons; first, no decent environment for creating the source programs; CP/M's ED is terrible!

To your reviewers, I would say that we, the readers are the prospective buyers, and with the software business as it now stands, I think we are entitled to strict reviews, with sufficient emphasis on the minus sides of programs. I am becoming tired of seeing my

stock of 'white elephant' programs rising, and the 8000 Plus reviewers must take their share in the responsibility for this. Whose side are you on?

Roy Milliken
Long Eaton, Nottingham

● We're on the side of truth, liberty, equality, cup cakes and crumbly candy bars. We've never reviewed CBASIC so we're innocent on that score, but in general you are of course quite correct. It is the job of a reviewer to clearly state the benefits and drawbacks of a particular package. Some minus points are annoying but not insuperable - if a particular compiler is the best there is then the lack of an editor doesn't necessarily make it not worth using (particularly if you own a CP/M word processor). It is easy to be too nitpicking in a review and give the impression that product is bad when in fact the flaws are cosmetic and it is still a useful package.

Disco fever

When I picked up the August edition of 8000 Plus at my local newsagents I gave an inward cheer because I saw that your main feature concerned damaged discs and data. This appeared to be just what I was looking for because the discs I have been using in my PCW 8512 have been driving me crazy. "This will provide all the magic answers and solutions," I thought. I was wrong!

Let me explain. I am a comparative newcomer to the world of computing having treated myself only recently to a PCW 8512.



"THAT'S THE GUY WHO DOES THE 8000 PLUS COVERS"

Rumbling tummies

Ever since the price of 8000 Plus was increased to £1.50 the front cover has featured a certain brand of Fruit and Nut chocolate.

Does the front cover of the Fruit and Nut appreciation club magazine feature a PCW? Is it a

form of subliminal advertising or something more sinister? The readers want to know. Do I get a prize for noticing?

John M Sorsby
Farnham, Surrey
(Hon. Sec. Whole Nut Appreciation Society)

● Congratulations on being the first to spot it, or the first to write in at least. The whole concept almost caused a strike at Future Publishing since the editorial team are all Raisin and Biscuit Yorkie fans. We'll have to find more obscure hiding spaces in future issues!

However, I like to think that I am not a total imbecile and I have already managed to find my way around several software packages such as Sage Retrieve, LocoScript and The Desktop Publisher.

However, I am having trouble with software which requires the use of the B drive on my 8512. I keep coming up against error messages which leave me completely flummoxed. Your magazine feature, while mentioning one or two of these, gave no explanation as to what they mean.

For the sake of the sanity of beginners such as myself, could you find space in your magazine to publish a few of the answers to questions such as these:

(1) What is an address mark? Is it something which should be on the disc when you buy it?

(2) What can you do about it if an address mark is missing?

(3) What do you do if you try to format a brand new disc in the B drive and the PCW comes up with a message that says the address mark is missing? Do you blame yourself for doing something stupid, do you take the disc back to the supplier and complain, or just chuck it in the dustbin?

(4) Why is it that a disc which has been working perfectly suddenly scrambles a lot of the information stored on it?

(5) Why is it that a disc which is giving trouble will sometimes work again if you take it out of the drive, shake it and put it back?

and finally ...
(6) What on earth does "Message 9" mean? This came up on my screen recently and I searched all through the Amstrad manual without being able to find a single reference to it.

I hope you will not feel I am wasting your time, but I cannot help feeling that there must be many beginners like myself who are desperately keen to learn about such matters.

Geoffrey C Bland
Cheltenham, Glos.

● This is all one of the most jargon-ridden areas since it all comes from the old days when you needed a degree to operate a computer. There is no avoiding the fact that repairing discs is a complex operation. Our article tried to give the basic information, but a full tutorial would take an entire book - you may know how to drive your car but that doesn't mean you know how to strip the engine down, and it is the same with computers. It looks as though the new version of *The Knife* (see page 49 this month) should make damaged discs easier to repair.

(1) Address marks are things that DISCKIT writes onto the disc when it formats it to tell the disc where to find the data

(2) If one is reported missing you will have

Antipodean anger

I have been the owner of a PCW 8512 since August, 1986, and have used this machine primarily for word processing.

What really amazes me about magazines published for the PCW is the constant gushing over the word processing capabilities of LocoScript, and this includes your review of LocoScript 2 in the May, 1987 issue.

My view is that Amstrad has had the gall to describe LocoScript as one of the most powerful word processors available when, in fact, it is one of the lousiest.

I bought the PCW to become more productive. I didn't buy it to look starry-eyed at the different character sets or fonts, or to gush and gush and gush over the

ridiculous pull-down menus. I certainly didn't buy it to become less productive, and if you are using LocoScript you will become less productive. LocoScript does nothing more than a good typist and electronic typewriter and the latter produces infinitely better printing results.

It makes me livid to see reputable magazines raise this so-called work processor to fame it does not deserve.

I have used a command driven word processor for two months now and it makes LocoScript look like the lousy word processor that it is. Sure, it cost money. Money that wouldn't have been spent if LocoScript was so fabulous.

LocoScript, one of the most

powerful word processors?

Amstrad has promoted this blatant lie.

Warren S. Armstrong-Han
Canley Heights NSW, Australia

● Everybody has their own favourite word processor, and if a vote were taken you would probably be in a minority in your views. To criticise a word processor for doing nothing more than processing words seems a little strange. In five years time people will look back on LocoScript and see it as an innovative and reliable piece of software that did more than any other product to demystify computers bring the power of word processing to the masses. How about writing to us with some justification of your ideas and we'll try to work out which is the "best" word processor?

to use a disc repair program to copy the undamaged areas to a fresh disc.

(3) Sounds like a faulty disc, take it back to the supplier

(4) Discs get damaged by magnetic fields from TVs and other appliances, or dirt on the disc surface, taking the disc out of the drive while the PCW is using it, or turning the PCW off with the disc in the drive.

(5) No idea. Why do broken washing machines start to work when you kick them?

(6) Er... this usually appears just before Message 10. It must come from whatever program you were using at the time, so look there rather than the PCW manual.

Head master

Regarding the business of disc head cleaning, I suspect the stuff to use will be Isopropyl Alcohol (the same stuff one would use for cleaning tape heads). How to get it anywhere near the head(s) is another matter. The problem of 'dirt' (dust particles, etc) infecting the head(s) shouldn't be too much of a problem, however, as long as the discs are kept in their cases or sleeves; and the 'contact' between the disc and head is actually of pretty minimal duration compared with a cassette tape recorder, for example.

I wonder, though, whether the problem might not be (in part at least) one of static electricity? We have certainly had problems in this regard, likely consequences being a refusal of the machine to accept that the drive is empty during copying operations, for example. Causes may be carpets made of artificial fibres, etc, but frequently the blame lies with central heating systems and storage radiators, and a partial cure may be effected by increasing the humidity in the

vicinity of the machine. A comparison of experiences of those who always word process with a steaming cup of coffee to hand and those who don't might prove instructive!

David C Leal
Leeds

● A reader rang in this month with a tip on how to make your own 3" head cleaning disc by stripping down a 3 1/2" cleaning disc and a 3" disc housing. We tried this out on an 8256 and managed to wreck the disc drive, so we wouldn't recommend that approach. Still, the supplies of alcohol for the cleaning disc came in handy to drown our sorrows.

Games gripe

Unless you're a hermit living in the remotest part of Finland, who's taken a vow of silence, who's never seen any issue of any issue of any Amstrad magazine and who thinks Alan Sugar is still selling aerials from the back of a van, you must have realised the amazing games market on the PCW.

The machine has some of the finest adventure games (Hitchhikers, Zork etc. etc.) arcade games (Batman, Bouncer etc. etc.) simulations (Tomahawk etc. etc.) and any other category type games imaginable so what help do you give? A little tip here, a little hint there but generally nothing. So, how about a page solely devoted to games; hints, tips, maps, ideas and the like.

Robert Seams
Earley, Reading

● Judging by our postbag most of our readers are not very interested in games software, although having said which it is undeniable that Hitchhiker's Guide, Batman

and Scrabble have all been top selling programs on the PCW. We usually run two pages of games reviews a month which seems a fair level. Fill in this issue's questionnaire and tell us we're wrong - what you write will shape the content of future issues.



Ephemeral phone numbers

I read with interest your review of Astrocalc in the August edition of your magazine, and was a bit disappointed to see that Electric Ephemeris did not arrive in time for you to review it. Could you let me have an address where I could get more information on this?

Brian P. Geary
Selkirk

POSTSCRIPT

●Mumble, mutter, mutter... all this free advertising for them and they wouldn't even give us a review copy. Oh well, *Electric Ephemeris*' phone number is 01-435 4619 – we don't seem to have an address for them. And when you ring them don't forget to say how wonderful 8000 Plus is.

Flying disc doctor needed

Your feature on "Open Heart Surgery for Discs" momentarily raised some hopes. We now know that some diseased discs can be healed with the aid of disc editor kits. But the world is divided into those who enjoy a good scrap with CP/M and hexadecimals when solving a problem – and those who don't. Wrestling miserably with the incomprehensibilities of yet another someone organising a postal surgery service?

Is this service something that could be initially arranged through your columns?

Francis Celoria

Park Hall, Stoke-on-Trent

●We've had several letters in this vein since our disc recovery article. One kind reader has previously offered a free help service in the past, but it would be an imposition to reprint his address. There is obviously a need for this kind of service – maybe some technically skilled readers out to make a bob or two would think about running a repair service via our Small Ads page?

TipOff trip-up

Your eagerly awaited magazine arrived this morning and, following my usual practice, I firstly read the Tip-Offs section and then dashed off to try out the ones I found most useful. For the first time ever I can't get one of them to work. I carefully followed all the instructions contained in "The erased...raised", but when I tried DIR, having reached the F9A> prompt, there was no sign of PIP.COM. Slightly

Confusion

I was rather surprised to read the reply you gave to the enquiry from John Langley (September 8000 Plus) that Prospell is unable to read LocoScript 2 files. Not being aware that the two systems were incompatible I have been using Prospell (v2.08) with LocoScript 2 since July without any problems.

Naturally, I was curious why I hadn't noticed anything untoward in using Prospell, and after some experimentation I found that all of the files originally had been

worried, but displaying my usual blind faith, I carried on with the PIP instructions. The machine made some very alarming noises but settled down and displayed the F9A> prompt without any error message. I gleefully assumed this meant success, but on returning to USER 0 and trying a Directory of the M: Drive I discovered it was empty.

Eileen Kehoe
Prestwich, Manchester

●It sounds as though you've got most of the way there. The noises the disc makes (like a cat being sick; cat owners know the noise) are a little distressing, but as long as you don't unerase files every five minutes no harm should come. Check the PIP command line is correct, PIP M:[G0]=filename, especially the [G0].

GET get-out

Inspired by various articles in 8000 Plus I set about making CP/M work for its living so all my program discs are now self-booting and end at appropriate pitch default, display of a guide to refresh my memory and single key commands to go further via GET.

For one program disc I need single key commands to call up ten files via GET CONSOLE INPUT FROM FILE XYZ (SYSTEM) but the memory allocated to expansion strings is much less than p.111 of the manual implies and GET ignores all but two of my ten expansion strings.

How would a skilled programmer increase the relevant memory space to about 1k or, as a poor alternative, make GET accept a three letter code in place of CONSOLE INPUT FROM FILE and an abbreviation for SYSTEM? Also, has a complete amateur any chance of achieving it?

David Cavanagh
Virginia Water, Surrey

●There may be an abbreviation to help you but not in any books we've got. You

opened as LocoScript 1 documents and then converted to LocoScript 2 format.

A G Hughes
Bolton

●Very interesting. Our research using the subscriber's disc version of Prospell appeared to show that LocoScript 1 and 2 documents worked fine, but not converted files! Other versions of Prospell seemed to insist that every LocoScript 2 file contained exactly five words. Writers being paid by the word, beware.

could try a different approach with Submit files instead. Do a SETDEF [ORDER=(SUB,COM)] and store your commands in a .SUB file. Now if you define your keys to be SUBMIT XYZ, the commands in XYZ.SUB will be run (as long as SUBMIT.COM is on your disc).

Microwrite-off

I was sorry to see you consign the Microwriter to the great dustbin in the sky in your September edition. I have had one of the little machines for nearly two years now. I haven't had to telephone the makers too recently for help but when I have someone at their end of the line has always shown colossal patience with this technological illiterate.

Actually the gadget is more fun to use than the standard keyboard and doesn't take too much learning. I'm plucking up the courage to try and make it download into the PCW when, no doubt, the lines between here and Microwriter will warm up again.

CFH Procopé
Sinnington, York

●Indeed, since last month's PostScript Microwriter has rung us up to say that they are not dead, merely resting. This month's portable computing article mentions the Microwriter a bit more, where the PCW end of the file transfer business is also described.

Tight fit

I am one of those tight sort of people who think twice before forking out a couple of quid on a disc, let alone £80 for a word processor. Well £80 is a lot to spend on anything if you do not get on with it. As I was brushing the dust off one of my old Commodore magazines I noticed an ad about a Computer Software Library, but, since then I have not been able to find it. Please could you let me know of any Software Library that you can rent PCW software from.

S. Comins
Whitstable, Kent

●I don't know of rental services as such, although there are many local PCW or CP/M user groups who may have this kind of informal agreement (strictly against software licensing agreements of course). The other option is to look for a program of the kind you need in the Public Domain – kind souls who want nothing more than a little fame have allowed their software to be given away free, and group in the UK exist to distribute the stuff. Since these groups have overheads to cover there is usually a charge in the form of a membership fee. PD software at its best is as good as any commercial program, and at its worst is

undocumented, unfriendly and unusable. Still, it's free. Try PD Software, Winscombe House, Beacon Road, Crowborough, East Sussex TN6 1UL (08926 63298) with an SAE for a catalogue.

The price is right

Having raised miserdom to an art form, my eyes lit up at your suggestion (issue 9) that a memory upgrade can be done even cheaper by hunting for chips of the right specification, so, to my collection of electronics catalogues. Farnell stock the chips, but charge £3.35 each. Let's try Maplin – £5.17. Radiospares was £5.35, whilst Verospeed managed to reach the giddy heights of £9.00!



"SOMETIMES I WONDER ABOUT YOUR PRIORITIES..."

Add to these prices VAT and P&P, and multiply by 8 (chips) and you get a cheapo DIY Upgrade Kit at prices ranging from £31.32 to £83.30! It could be more – the catalogues were mostly last year's! I've tried hard to find a footnote that says the prices are for packs of 5 or 10, but no luck. I think that when I do my upgrade, I shall be trying one of your advertisers, who (for prices around £20) throw in an instruction sheet as well.

But what worries me is, where are they getting their chips from? One must assume that they are top quality, but one is puzzled, to say the least.

Graeme Aldous
Moorholm, Cleveland

●Maybe Maplin and co. buy from them?

[illegible]

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